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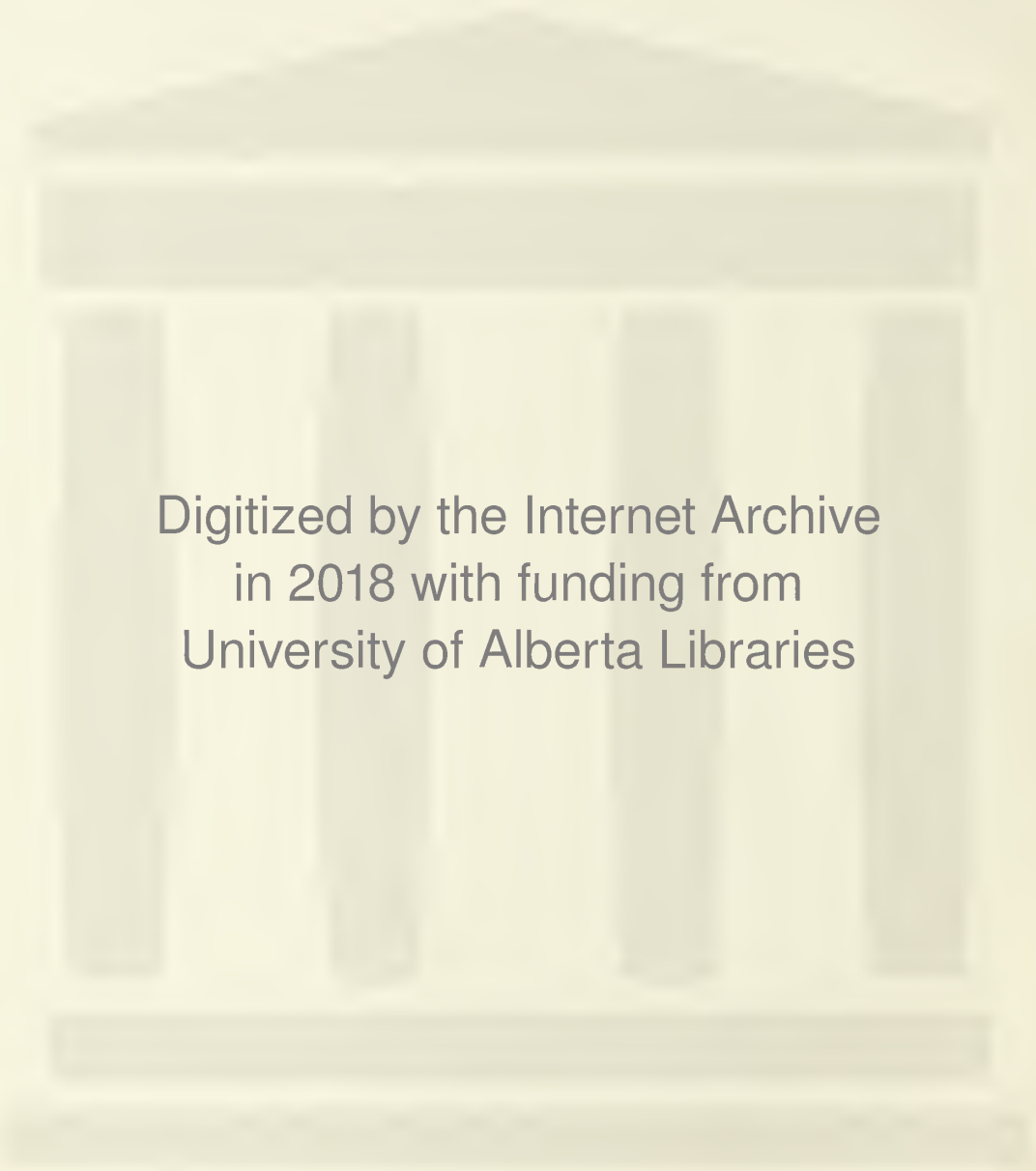
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THE UNIVERSITY OF ALBERTA

A STUDY OF STUDENT AND ADULT ATTITUDES TOWARDS THE TECHNICAL ELECTIVES PROGRAM IN EDMONTON COMPOSITE HIGH SCHOOLS

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

IN PARTIAL FULFILMENT OF THE REQUIREMENTS

FOR THE DEGREE OF MASTER OF EDUCATION

DIVISION OF EDUCATIONAL ADMINISTRATION

by

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ABSTRACT OF THE THESIS

The purpose of the study was to ascertain attitudes of students and adults towards the senior high school technical electives and to determine probable effects of such attitudes upon the shop program in the composite high schools of the Edmonton Public School system. A survey of the literature, and present practice, indicates that the technical courses have a somewhat minor status and are regarded as having only supplemental value. These subjects have not been accepted as matriculation courses, nor have they been placed on the list of Grade XII Departmental examinations. Few students proceed to second and third year units. In the three most recently built senior high schools of the Edmonton Public School system, the technical courses are not offered.

The study was limited to the three composite schools, Victoria, Strathcona, and Eastglen. An opinionnaire containing twenty-one items was distributed in April, 1960, to all the Grade XI boys at these schools, all of the teachers and administrators, and the fathers of the boys in Grade XII. A total of 889 opinionnaires was used in the analysis of the data. Specifically, the purpose or sub-problems concerned the social acceptance of technical subjects and the prestige accorded them, the factors affecting enrolment and dropout in these subjects, and the opinions on certain characteristics and administrative policies relating to the shop program.

It was found that, in general, attitudes indicated no definite support or opposition to the technical program. The least degree of favourability or acceptance of the shop program was shown by fathers in the professional occupations, academic teachers, and boys who had no high school shop experience. The Grade XI boys indicated that they find the shop subjects more interesting than academic subjects. They also appeared to regard the technical subjects as sufficiently challenging to maintain interest but not so difficult as to cause undue dropout. Factors that would adversely influence enrolment include the tendency for parents to urge their sons to follow a matriculation route regardless of student interests or aptitudes, the fact that shop courses are not recognized in further technical training, and the fact that they are not accepted as matriculation courses.

It is recommended that the technical program be re-examined as to subject matter and relation to the purpose of high school with a view to determining the feasibility of recognizing these subjects through Grade XII external examinations and acceptance for matriculation. Such re-examination should also determine whether the emphasis should be placed on theoretical study or on the development of marketable skills.

TABLE OF CONTENTS

CHAPTER		PAGE
I.	INTRODUCTION	1
	The Problem	2
	Statement of the Problem	2
	Sub-Problems	2
	Importance of the Study	3
	Definition of Terms	3
	Technical Electives	3
	Composite Schools	4
	Attitudes	4
	Prestige	4
	Assumptions	4
	Limitations of the Study	5
II.	BACKGROUND OF THE STUDY	6
	Development of the Composite Type High School	6
	Status of the Technical Electives	8
	Enrolment	8
	Prestige	10
	Characteristics	13
	Summary	15

CHAPTER		PAGE
III.	PROCEDURE	17
	Selection of Subjects	17
	The Instrument	19
	Description	19
	Pilot Study	20
	Collection of Data	27
	Distribution	27
	Returns	28
	Organization of Data	28
	Analysis of Data	29
	Evaluating Responses Relative to Social Acceptance and Prestige	30
	Evaluating Responses Relative to Enrolment, Program Characteristics, and Policies	32
IV.	ATTITUDES RELATIVE TO SOCIAL ACCEPTANCE AND PRESTIGE	33
	Social Acceptance	33
	Prestige	40
	Summary	48
V.	ATTITUDES RELATIVE TO ENROLMENT	50
	Presentation of Data	50
	Summary of Findings	60

CHAPTER PAGE

VI. ATTITUDES TOWARD CERTAIN CHARACTERISTICS OF THE SHOP PROGRAM AND ADMINISTRATIVE POLICIES..... 62

Attitudes Towards Characteristics..... 62

Presentation of Data..... 62

Summary of Findings..... 68

Attitudes Towards Administrative Policies..... 69

Presentation of Data..... 69

Summary of Findings..... 74

VII. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS..... 76

Summary..... 76

Conclusions..... 81

Recommendations..... 83

BIBLIOGRAPHY..... 88

APPENDIX A. Opinionnaire and Covering Letters..... 89

APPENDIX B. Instruction Sheets..... 96

APPENDIX C. Questions Submitted to the Panel of Judges..... 99

LIST OF TABLES

TABLE		PAGE
I.	Distribution of Fathers of Grade XII Boys According to Occupation.....	19
II.	An Illustration of the Tabulation Used in the Test-Retest, and of the Method of Computing Variation Scores to Assess the Reliability of Opinionnaire Items.....	22
III.	Contingency Table Used to Determine the Correlation between Test and Retest Responses for Item #3....	24
IV.	Contingency Table Used to Determine the Correlation between Test and Retest Responses for Item #4....	25
V.	Contingency Table Used to Determine the Correlation between Test and Retest Responses for Item #22...	26
VI.	An Illustration of the Method Used in Scaling Judgments Expressed through Responses to an Item on the Opinionnaire.....	29
VII.	Responses in Actual Frequencies and Percentage Occurrence for Groups for the Ten Items Relating to Social Acceptance.....	34
VIII.	Responses in Actual Frequencies and Percentage Occurrence for Sub-Groups for the Ten Items Relating to Social Acceptance.....	35

TABLE		PAGE
IX.	Group Attitude Scores for the Ten Items Relating to Social Acceptance, and the Group Response Indicated by the Scores	36
X.	The Range of Scaled Values for Each Category of Favourability	37
XI.	Chi-Square Test to Compare Attitudes of Boys and Staff Groups in Social Acceptance of Technical Electives	38
XII.	Sub-Group Attitude Scores for the Ten Items Relating to Social Acceptance and the Responses Indicated by the Scores	39
XIII.	Responses in Actual Frequencies and Percentage Occurrence for the Groups for the Five Items Relating to Prestige	41
XIV.	Responses in Actual Frequencies and Percentage Occurrence for the Groups for the Five Items Relating to Prestige	42
XV.	Group Attitude Scores for the Five Items Relating to Prestige, and the Group Response Indicated by the Scores	43
XVI.	Range of Scaled Values for Each Type of Response Representative of Prestige	44

TABLE		PAGE
XVII.	Sub-Group Attitude Scores for the Five Items Relating to Prestige and the Responses Indicated by the Scores	45
XVIII.	Chi-Square Test to Compare Boys and Staff Groups in Attitudes Indicative of Prestige Accorded the Technical Electives	47
XIX.	Chi-Square Test to Compare "Difficulty" of the Shop Program with "Suitability" as Determinants of Prestige	49
XX.	For Item #1, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values	52
XXI.	For Item #2, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values	53
XXII.	For Item #3, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values	54
XXIII.	For Item #4, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values	55
XXIV.	For Item #5, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values	56

TABLE PAGE

XXV. For Item #6, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values..... 57

XXVI. For Item #7, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values..... 58

XXVII. For Item #9, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values..... 59

XXVIII. For Item #14, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values..... 63

XXIX. For Item #15, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values..... 64

XXX. For Item #16, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values..... 65

XXXI. For Item #17, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values..... 66

XXXII. For Item #18, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values..... 67

TABLE PAGE

XXXIII. For Item #8, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values..... 70

XXXIV. For Item #19, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values..... 71

XXXV. For Item #20, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values..... 72

XXXVI. For Item #21, Sub-Group Response Frequencies and Percentages with Attitude Scores Based on Scaled Values..... 73

LIST OF FIGURES

FIGURE		PAGE
1.	Enrolment Totals in Technical Electives in Edmonton Composite High Schools in 1959-60.....	9
2.	Secondary School Enrolment in Canada, 1957-58.....	11
3.	Occupational Distribution of Employment in Canada, 1958-59.....	11

CHAPTER I

INTRODUCTION

It is generally recognized that each individual is entitled to an opportunity to obtain an education in line with his ability and interests. The problem of serving individual differences becomes greater as the percentage of the general population attending senior high school increases. To provide for the needs of a heterogeneous high school population, a composite type of school has developed, with educational services extended in breadth beyond the traditional academic subjects to include commercial and technical programs.

Whether or not courses or programs other than the academic can effectively perform a service to accommodate variety in aptitudes and interests will depend to a great extent upon society's attitudes towards these programs. Attitudes would have an effect upon enrolment, guidance tendencies, administrative policy, and the status of the courses as prerequisite to further training. A determination of these attitudes would assist in providing a basis for curriculum reconstruction.

It appears that the success of the technical program in arousing and meeting the interests of students in the senior high school, and in forming a basis for prevocational or vocational training, is somewhat uncertain. There are some indications that this program in the Edmonton Public School system has not been entirely successful. Relatively few students follow a technical route through senior high

school. No apparent recognition is given the technical program as preparation for further training in technical schools or in the faculty of engineering at the university. And the three most recently built senior high schools in Edmonton do not offer the technical electives.

I. THE PROBLEM

Statement of the Problem

The purpose of this study was to reveal attitudes of students and adults relative to the senior high school technical electives and to determine the effect of such attitudes upon the technical program in the composite high schools of the Edmonton Public School system.

Sub-Problems

More specific purposes or sub-problems were:

(1) to ascertain the degree of acceptance or rejection of the high school technical program;

(2) to assess the prestige accorded the technical program;

(3) to discover the conditions or features of the program that are major factors in prestige;

(4) to determine the effect of certain attitudes upon enrolment and dropout in high school technical courses;

(5) to ascertain those conditions or features of the technical program that influence enrolment;

(6) to ascertain opinions on particular features of the technical program, including course content and instruction, vocational value,

suitability as a laboratory course or science supplement, and suitability as high school courses as presently offered;

(7) to assess attitudes towards certain suggested policies that would affect the high school technical program, including the policy of testing and classifying students and directing them to the various high school programs; the policy of extending "departmentals" to cover subjects other than the academic; and the policy of allowing Grade XII students to choose a five-credit shop course for matriculation.

Importance of the Study

The comprehensive or composite type senior high school with technical subjects offered as a part of the curriculum is relatively new and somewhat on trial. Various criticisms appear to emerge from differing viewpoints as to the function of the technical electives in the senior high school curriculum. A determination and assessment of attitudes through this study should provide some indication of the extent and source of approval or opposition and some direction for future policy.

II. DEFINITION OF TERMS

Technical Electives

"Technical electives," used synonymously with "shop subjects," refers to those subjects listed in the Senior High School Handbook[1] as

---

[1]Department of Education, Province of Alberta, Senior High School Handbook, 1959-60, p. 8.

Woodwork, Metalwork, Electricity, Automotives, and Drafting.

Composite Schools

The term "composite" is applied to senior high schools "when a school organization offers, in addition to the regular academic program, courses in commercial, technical, and general options in some substantial degree."[2]

Attitudes

An attitude is "An acquired, or learned, and established tendency to react toward or against something or somebody."[3]

Prestige

Prestige is social recognition or regard based on reputation or associations.

III. ASSUMPTIONS

In this study, it is assumed:

(1) that the sample chosen is representative of the population;

(2) that the respondent groups have sufficient knowledge of the senior high school technical program to express opinions and that sufficient thought and attention would be applied to the completion of the opinionnaire;

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[2]I. B. Rouse, "The New Composite Schools," Canadian Education Today (A Symposium), edited by Joseph Katz (Toronto : McGraw-Hill Book Co. of Canada Ltd. 1956), p. 152.

[3]Fairchild, Dictionary of Sociology, p. 8.

(3) that the opinionnaire has sufficient reliability and validity to make it an effective data-gathering instrument.

IV. LIMITATIONS OF THE STUDY

This study was limited to the Edmonton Public School system. Although the total adult population and the total high school student population would hold views and feelings toward high school technical subjects, it is likely that attitude intensity would be greater in populations associated with the composite high schools where the shop program is offered. For this reason, only the three Edmonton composite high schools (Victoria, Strathcona, and Eastglen) were involved in this study.

CHAPTER II

BACKGROUND OF THE STUDY

I. DEVELOPMENT OF THE COMPOSITE TYPE HIGH SCHOOL

In a chapter entitled "New Composite Schools," I. B. Rouse[4] describes the social and economic changes that evolved to produce the modern senior high school. The motherland background and influence of both the French and British in Canada tended to emphasize classical learning. The pioneer character of communities tended to stress basic skills of reading, writing, and arithmetic for the elementary school, and selective classical academic learning for the secondary.

But an increase in population, industrial development, and the use of machines to produce an extension in the variety of occupations and a high standard of living, have brought changes in education. The machine has "required effective correlation of intellectual and manual capabilities of man,"[5] and has established a demand for semi-professional and skilled artisans.

Writing on secondary education, Ewart H. Morgan[6] describes how enrolment trends have resulted in curriculum changes in Canadian

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[4]Rouse, Op. Cit., p. 144.

[5]Ibid., p. 146.

[6]Ewart H. Morgan, "Secondary Schools," Canadian Education Today (A Symposium), edited by Joseph Katz, (Toronto : McGraw-Hill Book Co. of Canada Ltd., 1956), p. 117.

high schools. High schools were for "the select few" in 1915. Approximately 9 per cent of the 14 to 17 year olds were enrolled in 1920. But by 1942 the enrolment for the same age group reached 43 per cent, and is likely over 80 per cent at the present time (1956).

> It is now deeply embedded in our philosophy that our high schools shall be open to as nearly 100 per cent of this age-group as can profitably be attained. Today's high schools consequently house many students for whom the courses of yesterday, highly academic in character, are inappropriate in view of both their interests and their abilities, and for whom the present external examination standards are unrealistic.[7]

To support this philosophy, a senior high school must be supported by a population sufficient to provide financial resources for large buildings for a large enrolment, and for the necessary equipment and specialized staff for a varied program. The composite school arose to accommodate the mass enrolment and the varied interests and aptitudes of students. One part of the varied program of the composite high school is the shop or technical program.

Byrne[8] refers to the decade, 1946-56, as the period in which the Alberta composite school movement was established. During this time the three composite senior high schools in which the technical program is offered were built in Edmonton. But, as has previously been stated, shop subjects are not offered in the three most recently built senior high schools of the Edmonton Public School System.

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[7] Ibid.

[8] T. C. Byrne, "Composite High Schools in Canada," edited by J. H. M. Andrews and A. F. Brown, (Edmonton : Committee on Educational Research, Faculty of Education, University of Alberta, 1959), p. 70.

II. STATUS OF THE TECHNICAL ELECTIVES

Enrolment

Apparently there is a lack of continued interest in shop courses through the three years of high school. As shown in Figure 1 relatively few students enrol in the second and third year technical electives. Figures for other years show a similar proportion. The enrolment drop in these subjects appears to be excessive in relation to variations in general attendance[9] and in grade enrolments.

Enrolment tendencies in the composite schools of Edmonton are apparently similar to those in other Alberta centres. Byrne[10] states that less than fifteen per cent of composite high school students in Alberta follow a technical program, while fifty to sixty per cent of high school students select the matriculation program. Yet only five to seven per cent of the total student population gain matriculation standing.

The same trend is observable elsewhere in Canada. This was noted by J. P. Francis[11] of the Economics and Research Branch of the Department of Labour, Ottawa, in January, 1960. He found an apparent lack of correlation between enrolments in certain training programs and employment needs served by these programs. The graphs in Figures 2

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[9]Attendance records. Office of the Superintendent, Edmonton Public Schools.

[10]Byrne, Op. Cit., p. 73.

[11]J. P. Francis, "Some Preliminary Observations on the General Findings of the Skilled Manpower Training Research Project," Minutes of the Meeting of the Apprenticeship Training Advisory Committee, Ottawa, January, 1960.

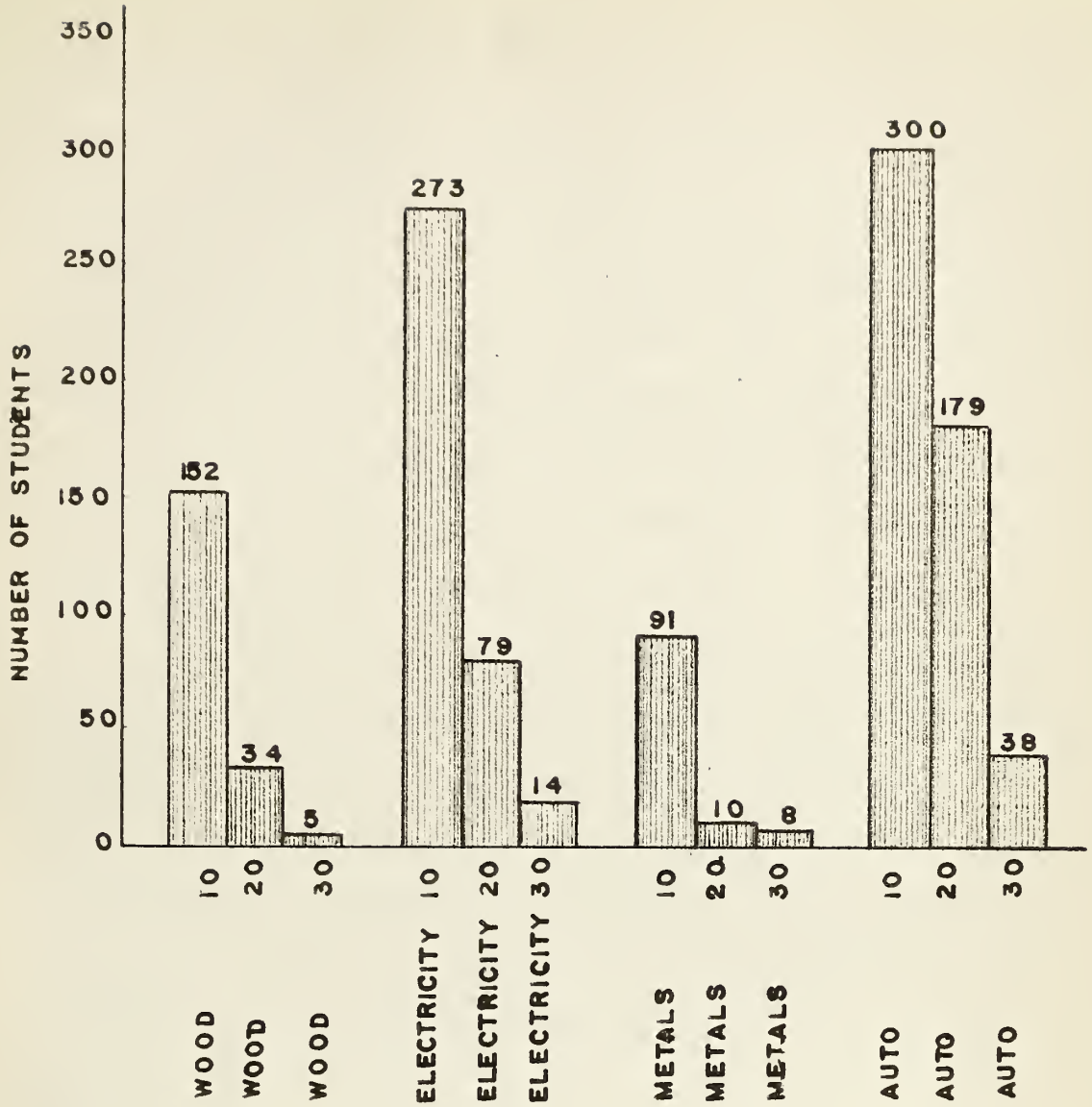

FIGURE 1

ENROLMENT TOTALS IN TECHNICAL ELECTIVES IN EDMONTON COMPOSITE HIGH SCHOOLS IN 1959-60. (BASED ON ENROLMENT STATISTICS OBTAINED FROM THE OFFICE OF THE SUPERVISOR OF INDUSTRIAL ARTS FOR EDMONTON PUBLIC SCHOOLS)

and 3, similar to the form used by Francis,[12] are used to illustrate this finding. Figure 2 shows that enrolment in academic courses is more than four-fifths (eighty-two per cent) of the total and that enrolment in technical courses is between four and five per cent. Apparently our educational services are not aligned with occupational requirements or occupational distribution as revealed in Figure 3. The four-fifths enrolment in academic courses leading to university and professions seems to serve only eight per cent of occupational positions, while the four to five per cent enrolment in technical courses seems to serve a much larger group in skilled and semi-skilled occupations.

However, it remains to be established what is the best kind of training each type of trainee should receive. It may be argued that the academic type program is the best for all, including the technical students. This point was not stated by Francis[13] but he did suggest that since techniques and methods are rapidly changing, technical training courses should not be too involved with specific skills but should be more concerned with theoretical knowledge.

Prestige

A study by Kelland[14] of the prestige of subject areas of the program in Alberta composite high schools, revealed that shop subjects

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[12] Ibid.

[13] Ibid.

[14] Newman Kelland, "A Study of the Prestige of Certain Aspects of the Educational Program in Alberta Composite High Schools," (Edmonton : Unpublished Master's Thesis, University of Alberta), 1959, p. 126.

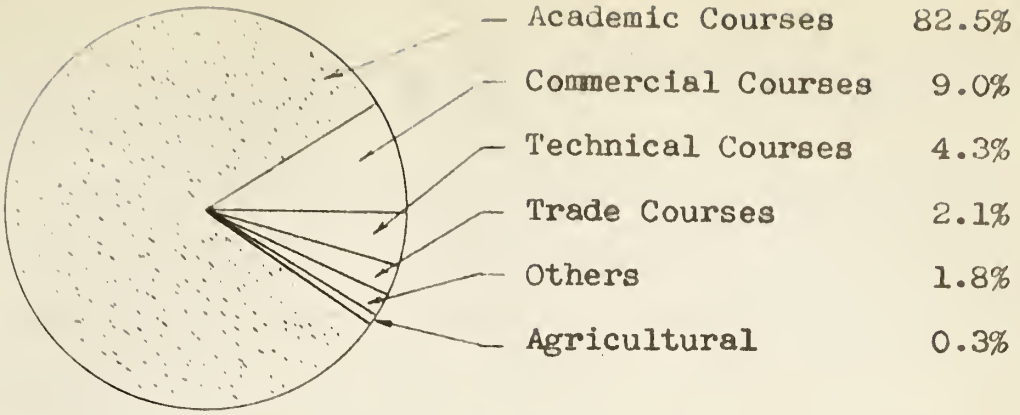

FIGURE 2

SECONDARY SCHOOL ENROLMENT IN CANADA, 1957-58

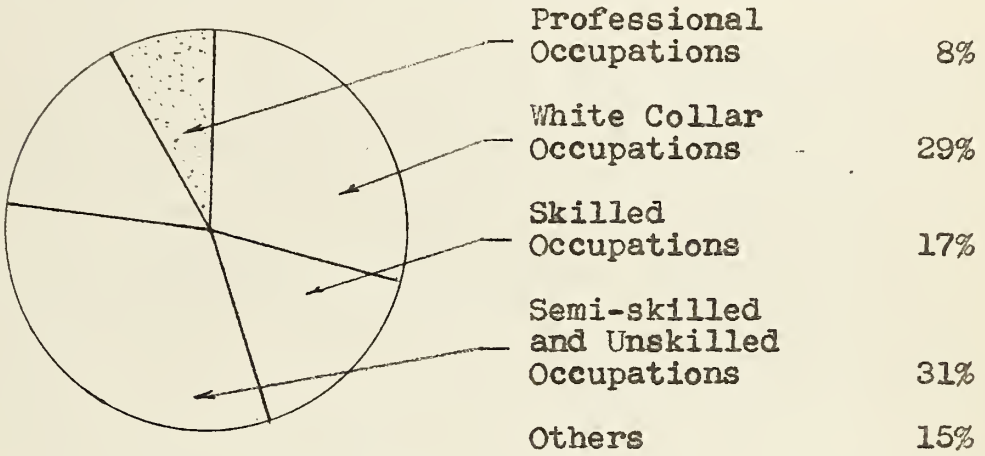

FIGURE 3

OCCUPATIONAL DISTRIBUTION OF EMPLOYMENT IN CANADA, 1958-59

Figure 2 and Figure 3. (From charts by J. P. Francis, Economics and Research Branch, Department of Labour, Ottawa.)

were given an in-between or middle ranking by parents and students, but low ranking by teachers.

Byrne,[15] describing the administrative problems of fusing the "academic tradition," the "commercial tradition," and the low status "technical tradition," refers to the "tremendous prestige attached to the matriculation route."

> Technical courses can be and should be as demanding intellectually as those in the academic field. Many students following the technical pattern in high school should be destined to enter superior positions of technological nature or to proceed to advanced training at a college level. Despite attempts to achieve the latter, the University has never regarded such courses as electricity or drafting as suitable preparation for any of its faculties.[16]

In forming conclusions and recommendations from the study of Canadian composite high schools, Andrews[17] refers to the low prestige of the vocational or pre-vocational courses as one of the chief obstacles to further development of such programs. Reference is made also to a suggestion that since the non-academic programs serve mainly low ability students, these programs tend to become less suited to capable students.

> ...because of the common basic division between academic and non-academic programs on the basis of ability, the latter are looked upon frequently as 'dumping grounds' rather than as interest areas.[18]

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[15]Byrne, Op. Cit., p. 70.

[16]Ibid., pp. 72-73.

[17]J. H. M. Andrews, "Composite High Schools in Canada," (Edmonton : Committee on Educational Research, Faculty of Education, University of Alberta, 1959), p. 106.

[18]Ibid.

An article entitled "Matriculation Status Urged for Courses"[19] in the Edmonton Journal, June 7, 1960, contains a further indication of the low prestige attached to shop subjects. The article referred to the "stiff opposition" at a personnel association meeting to the resolution suggesting matriculation status for a business education course. One of the members, according to the article, warned that such "watering down" may eventually lead to accepting even shop subjects as matriculation requirements.

From the foregoing research and opinions, it seems that technical subjects in high school are accorded rather low prestige.

Characteristics

The Alberta General Curriculum Committee[20] in their News Letter refers to the "dual personality" of technical or industrial education as having two major educational areas -- industrial arts with its general education objective, and vocational-industrial education with its objective of vocational competence. All Grade X technical electives are classified by the Curriculum Committee as segments of the general education program because of the very limited enrolments in courses beyond those of the first year. These courses, too, with their five credit values, fit into the general or academic timetabling scheme. On the other hand, the second and third year technical electives have a credit value of eight or

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[19] The Edmonton Journal, June 7, 1960, p. 33.

[20] Alberta General Curriculum Committee, Curriculum News Letter, (Edmonton : October, 1958).

ten and are therefore out of alignment with other high school subjects and are off the matriculation path. These electives are classed by the Curriculum Committee as vocational education courses.

There is little definite association between the high school shop program and the program offered by technical schools or other institutions. High school technical diplomas are not issued. High school shop attainments are not recognized by technical schools. No high school technical subject is accepted as a subject suitable for matriculation; and no high school technical subject is on the list of Department of Education examination subjects. There is, however, some recognition of the high school shop program in the apprenticeship training plan.[21] A student who has completed the three successive courses of a technical unit (for example, Woodwork 10, 20 and 30) may write an apprenticeship examination with a view to lessening his apprenticeship period by one year.

Further insight into the general conception of the place of technical electives and their significance in the high school curriculum, may be found in the following excerpts from the Report of the Royal Commission on Education for Alberta:[22]

> Students who pursue an academic program find value in vocational courses as minor supplements to their studies.[23]

---

[21] Department of Education, Province of Alberta, Senior High School Handbook, 1959-60, p. 24.

[22] Report of the Royal Commission on Education in Alberta, 1959.

[23] Ibid., p. 380.

> With some alterations, however, they (Industrial Arts courses) could make a very important contribution to general education. One such alteration would be a change in the amount of time they presently receive. The possibility of constructing industrial arts courses as laboratory courses--supplementing other subjects as mathematics, science, or art--should be explored.[24]

> ...the composite schools have met with limited success in vocational-trade education.[25]

> Employers' Views on Technical and Trades Training:
> 1. a conviction that, regardless of the nature of school training, many of the required technical skills must be learned on the job and through post-school courses of instruction;
> .....
> 3. a lack of enthusiasm for any appreciable increase in the range of practical courses being offered in Alberta's schools.[26]

III. SUMMARY

The foregoing outline of literature relating to the senior high school technical program indicates that perhaps the purpose for which this program was introduced into the large modern high school has not been served. It also suggests that social values play a part in the acceptance and the success of the program.

In summary, the background for the study shows that shop courses are generally used as "minor supplements" or as "fill-ins"; that few students proceed to second and third year shop subjects; that no shop subject has been accepted as a matriculation course and none has been included with the Grade XII Departmental examinations; that the shop

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[24] Ibid., p. 182.

[25] Ibid., p. 226.

[26] Ibid., p. 510 (an abstract by H. J. Uhlman, "Educational Needs as Viewed by Selected Alberta Manufacturers")

program is considered somewhat as a "dumping ground" for the students of lesser ability; and that the shop program has little significance as preparation for vocations.

The situation described constitutes a social and educational problem. In an effort to provide information that may assist in the solution of this problem, this study proceeded to determine the attitude of students and adults towards the technical electives program of the Edmonton composite high schools.

CHAPTER III

PROCEDURE

This chapter describes the selection of the respondents, the construction of the data gathering instrument, the collection and tabulation of data, and the analysis of data.

I. SELECTION OF SUBJECTS

The study was limited to the three composite high schools, Victoria, Strathcona, and Eastglen, of the Edmonton Public School system. Boys attending these high schools, the teaching and administrative staffs, and the parents of the students, constituted the population from which the sample was selected.

Groups chosen as subjects or sources of data were (1) all of the Grade XI boys attending these high schools, (2) all of the teaching and administrative staffs at the three composite schools, and (3) the fathers of all of the Grade XII boys. Grade XI boys were chosen because of the fact that a large proportion of them would have had a year's high school shop experience, many would be enrolled in the second year of the shop program, and would have had problems in programming and timetabling. It was thought, also, that since few Grade XII boys elect shop courses the general interest and concern for the program would be greater in the Grade XI group. The fathers of the Grade XII boys were chosen as respondents representative of parents. Since Grade XII boys were not a

source of data this policy would tend to diversify the sampling more than if the fathers of Grade XI boys were subjects.

Respondents were classified into three main groups and ten sub-groups according to the following arrangement:

Boys-	Shop Boys
	Non-shop boys
Staff-	Administrators and/or guidance people
	Academic teachers
	Business education teachers
	Shop or Home Economics teachers
Fathers-	Professional
	Managerial
	Industrial-Technical
	Others

The selection of categories for fathers was based on the supposition that professional people with their academic and university training, the managerial type with their employee problems, and the industrial-technical workers making direct use of skills, would form somewhat distinct sub-groups insofar as views on technical education are concerned. The covering letter to fathers makes the occupational categories somewhat more specific. It is contained in Appendix A. The "Others" category would include clerical, service, labour, and sales occupations.

In order to establish a set of data more representative of fathers, a count was made through the use of the registration forms at each school office of the number of fathers considered to belong to each category. A random selection was made from returns of the opinionnaire on the basis

of the distribution determined by the count.

Table I summarizes the information used as a basis for such stratified random sampling. For example, since the proportion of sub-groups in V. C. H. S. was 7 per cent, 20 per cent, 30 per cent, and 43 per cent, the proportion of returns from each sub-group selected in random fashion would be similar.

TABLE I

DISTRIBUTION OF FATHERS OF GRADE XII BOYS ACCORDING TO OCCUPATION

School	Professional	Managerial	Industrial Technical	Others
V. C. H. S.	7%	20%	30%	43%
S. C. H. S.	18%	26%	20%	36%
E. G. C. H. S.	8%	16%	32%	44%

II. THE INSTRUMENT

Description

To obtain data relating to attitudes towards various aspects of the shop program, the instrument used was an opinionnaire containing a series of items or statements. The responses to each item consisted of circling letter codes: SA (Strongly Agree), A (Agree), U (Undecided), D (Disagree), SD (Strongly Disagree). To illustrate the method of response, two items from the opinionnaire are presented:

1. Most boys in high school find the shop subjects more interesting than academic subjects---------- SA A U D SD

.....

14. Shop subjects are "frills" that tend to lead a student away from the real purpose of high school---------- SA A U D SD

Opinionnaire items were prepared with a view to assessing attitudes relative to (1) social acceptance and prestige, (2) enrolment, and (3) certain characteristics of the shop program and administrative policies.

Pilot Study

Since no norms exist for a test of attitudes, the validity of the items, that is, the suitability of the items as a means of obtaining attitude data, depended on the judgment of the researcher with some assistance from others. A preliminary or trial opinionnaire was submitted to three judges for criticism and suggestions. Minor changes were made in some items and in the introduction or explanation.

To test the clarity of the statements and to determine the time required to complete the opinionnaire, the revised trial instrument was then completed by a drafting class of sixteen boys, chiefly Grade X, and an automotives 30 class of seven boys, all in Grade XII. None appeared to find difficulty in understanding the procedure involved or the meaning of the statements, except for the word "prestige". A revision to overcome this difficulty replaced "prestige" with "prestige or regard for".

The time required to complete the opinionnaire was somewhat less than ten minutes for the majority of the students.

With the co-operation of the same group of students a retest was made to assess the reliability of the instrument. The first and second responses for each student were then compared. Responses to items on the retest that differed from those on the first test were scored for variation. Table II provides an illustration of the method of tabulating the two sets of responses to items of the opinionnaire by the pilot test group of twenty-three students. A respondent's score of zero for an item would mean that the response was the same for the "test" and "retest", while a score of one would mean that the retest response varied by one interval on the scale.

The items chosen for illustration in Table II were item 3 with a medium variation score of 13, item 4 with a low variation score of 8, and item 22 with the highest variation score of 19.

An approximation of the reliability coefficient of a test item would be obtained by considering the variation score for an item in relation to the possible variation. For item 22, for example, the reliability coefficient would be approximately .79, the ratio between (92 - 19) and 92, where "19" represents the observed variation, and "92" the possible variation for the twenty-three subjects and four degrees of freedom on the response scale.

A further test of the reliability of the items of the opinionnaire was made through determining the contingency coefficient,[27] C, which

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[27]H. E. Garrett, Statistics in Psychology and Education, (New York : Longmans, Green & Co. 1958), pp. 323 - 327.

TABLE II

AN ILLUSTRATION OF THE TABULATION USED IN THE TEST-RETEST, AND OF THE METHOD OF COMPUTING VARIATION SCORES TO ASSESS THE RELIABILITY OF OPINIONNAIRE ITEMS

Items	Respondents																						Variation Score
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
# 3	A	A	D	D	A	D	A	A	SD	A	U	A	A	U	A	A	A	A	U	D	A	SD	SA	
	A	A	A^2	D	A	D	U^1	A	D^1	A	SD^2	A	A	A^1	A	A	D^2	A	A^1	A^2	A	D^1	SA	13
# 4	D	D	SD	SD	D	A	D	D	A	A	SA	D	A	A	D	D	SD	A	U	SD	SD	D	SD	
	D	D	D^1	SD	D	A	D	D	D^2	A	SA	D	A	D^2	D	D	SD	U^1	D^1	SD	D^1	D	SD	8
#22	A	D	SA	D	A	A	A	D	D	D	SA	D	SA	U	U	SD	D	A	U	U	U	D	SD	
	A	U^1	A^1	D	A	A	D^2	A^2	D	U^1	U^2	D	D^3	D^1	D^1	SD	U^1	D^2	U	A^1	A^1	D	SD	19

NOTE: As an aid to reading this table, consider respondent "3" and item #3. The "D" indicates disagreement on the test and the "A" indicates agreement on the retest. The variation score is 2 because these responses vary by two intervals on the scale.

measures the correlation of two variables with two or more categories. In this instance, the variables are the items in test and retest, and the categories are the responses. Table III shows a contingency table for item 3. Each cell shows the actual relationship and, in parenthesis, the independence value or expected value if there were no correlation. The value ".67" for C, derived from X^2, is a measure of correlation between the test and retest for item 3.

Items 4 and 22 are similarly assessed in Tables IV and V. Item 22, with the greatest variation score suggesting the least degree of reliability, has a coefficient of contingency of .57. Since Chi-square, from which it is derived, is significant at .02 level of confidence, the coefficient of contingency is similarly significant. It appears then, that the degree of correlation is sufficient for acceptance of items with the highest variation scores.

The foregoing methods of assessment of the acceptability of the items of the opinionnaire were used as a basis for deletion and change of items. Items were considered lacking in reliability if the variation score was in excess of 15. Distribution of responses, too, was a validity consideration. Items that had responses entirely on the "Agree" or on the "Disagree" side of the scale were changed or deleted because they appeared to be representative more of fact than opinion.

The opinionnaire in final form contained twenty-one items or statements. It is contained in Appendix A.

TABLE III

CONTINGENCY TABLE USED TO DETERMINE THE CORRELATION BETWEEN TEST AND RETEST RESPONSES FOR ITEM #3

Item #3 Variation Score: 13

Retest \ Test	SA	A	U	D	SD	
SA	(.04) 1	(.6) 0	(.1) 0	(.2) 0	(.1) 0	1
A	(.7) 0	(8.5) 11	(2.0) 2	(2.6) 2	(1.3) 0	15
U	(.04) 0	(.6) 1	(.1) 0	(.2) 0	(.1) 0	1
D	(.2) 0	(2.8) 1	(.7) 0	(.9) 2	(.4) 2	5
SD	(.04) 0	(.6) 0	(.1) 1	(.2) 0	(.1) 0	1
	1	13	3	4	2	23

$X^2 = 45.39$

(Significant at .01 level)

C = .67

TABLE IV

CONTINGENCY TABLE USED TO DETERMINE THE CORRELATION BETWEEN TEST AND RETEST RESPONSES FOR ITEM #4

Item #4 Variation Score: 8

Retest \ Test	SA	A	U	D	SD	
SA	(.04) 1	(.6) 0	(.2) 0	(.2) 0	(.1) 0	1
A	(.7) 0	(8.5) 11	(2.0) 2	(2.6) 2	(1.3) 0	15
U	(.04) 0	(.6) 1	(.1) 0	(.2) 2	(.1) 2	1
D	(.2) 0	(2.8) 0	(.7) 1	(.9) 0	(.4) 0	5
SD	(.04) 0	(.6) 0	(.1) 1	(.2) 0	(.1) 0	1
	1	13	3	4	2	23

$X^2 = 51.25$

(Significant at .01 level)

C = .69

TABLE V

CONTINGENCY TABLE USED TO DETERMINE THE CORRELATION BETWEEN TEST AND RETEST RESPONSES FOR ITEM #22

Item #22 Variation Score: 19

Retest \ Test	SA	A	U	D	SD	
SA	(0) 0	(0) 0	(0) 0	(0) 0	(0) 0	0
A	(.91) 1	(1.52) 3	(1.52) 2	(2.43) 1	(.61) 0	7
U	(.65) 1	(1.09) 0	(1.09) 1	(1.74) 3	(.43) 0	5
D	(1.17) 1	(1.96) 2	(1.96) 2	(3.13) 4	(.78) 0	9
SD	(.26) 0	(.43) 0	(.43) 0	(.70) 0	(.17) 2	2
	3	5	5	8	2	23

$X^2 = 30.52$

(Significant at .02 level)

C = .57

III. COLLECTION OF DATA

Distribution

Opinionnaire forms were placed in the appropriate school mail box in April, 1960, for each staff member. A covering letter stated the purpose of the study and the approximate time required to complete the form. Staff members were asked to check (✓) their category on the covering letter. They were also instructed to return the completed forms to the school office.

The distribution of the opinionnaire to the boys in Grade XI was made through the co-operation of teachers of Literature 20 in two of the schools and Grade XI register room teachers in the other school. An instruction sheet to teachers of these Grade XI classes was attached to each large envelope containing the opinionnaire forms. All of the Grade XI boys completed the forms in class period--Literature 20 period or "Home Room" period.

The three schools were used also in the distribution and collection of the opinionnaire to parents. Each Grade XII register room received a large envelope containing the forms for the Grade XII boys to take home to their fathers. An instruction sheet attached to the large envelope contained a short explanation to be read to the students. They were asked to return the completed forms to the large envelope in the classroom.

Copies of the instruction sheets to teachers handling the distribution of opinionnaires are contained in Appendix B.

Returns

Since the Grade XI boys completed the opinionnaire in class periods, nearly all the forms were returned. A total of 573 were returned with 9 incomplete, leaving an accepted total of 564.

Returns from teachers reached 73 per cent. Three of the total of 128 received were not accepted, leaving 125 to be considered in the study.

Parents returned 270 completed opinionnaire forms. Those completed by mothers were set aside and a random selection was made according to the proportion of fathers in each category, as described in Table I on page 19. A total of 200 opinionnaires from parents was used in the study. Returns for parents indicated a relatively poor response, slightly in excess of 40 per cent.

IV. ORGANIZATION OF DATA

Preparation of the data for the purpose of analysis consisted chiefly of determining frequencies of each type of response for each item. The response of every individual to each item was recorded and the frequencies for each group and sub-group tabulated.

To facilitate a quantitative assessment of the responses relative to social acceptance and prestige of the technical electives program, the responses, SA A U D SD, were classified according to the following categories: Highly Unfavourable, Unfavourable, Indifferent, Favourable, Highly Favourable. This arrangement seemed necessary to overcome the problem created by the fact that agreeing with the

statement may, for one item, mean a favourable attitude towards the technical program, and for another item, mean an unfavourable attitude.

V. ANALYSIS OF DATA

Since the number of subjects, 889, was comparatively large and the response frequency apparently less at the extreme ends of the scale for the items generally, it was considered reasonable to assume a normal distribution of the responses. Quantitative values in the form of standard scores were computed for each interval of the scale for each item as described by Garrett[28] in Statistics in Psychology and Education. Table VI provides an illustration of this method of scaling.

TABLE VI

AN ILLUSTRATION OF THE METHOD USED IN SCALING JUDGMENTS EXPRESSED THROUGH RESPONSES TO AN ITEM ON THE OPINIONNAIRE

Responses	H. U.	UN.	IND.	F.	HF.
Per cent Checking	1	6	14	58	21
Values	-2.70	-1.79	-1.10	.00	1.37
Standard Scores*	3	12	19	30	44

*The standard scores as scaled values vary with each item on the opinionnaire according to the frequencies for each type of response.

[28]H. E. Garrett, Statistics in Psychology and Education, (New York : Longmans, Green & Co., 1958), pp. 323-327.

According to Garrett, the method described in Table III for "weighting" an attitude scale is considered to have advantages over the method of supplying arbitrary values such as 1, 2, 3, 4, and 5, because it more accurately pictures biased opinions, and items may be readily compared because the divisions of the scale are equal.

To obtain a response score or attitude score for an item, the frequencies of the responses were multiplied by the scaled values and the mean determined. For groups or sub-groups, the mean scores indicative of a response, served as a basis for comparison of attitudes.

Evaluating Responses Relative to Social Acceptance and Prestige

The responses to ten items were used collectively to determine attitudes generally favourable or unfavourable to the shop program, that is, social acceptance of the program. Responses to five of these items were used similarly to determine the prestige accorded the program.

A list of the ten items, numbered as on the opinionnaire, is as follows:

7.	If a shop subject, such as Electricity 30 or Applied Mechanics 30, were on the matriculation list, it would be as popular (for boys) as the "average" matriculation subject. ----------	SA	A	U	D	SD
10.	An average of 60% in the academic program indicates better achievement than an average of 60% in the shop program. ----------	SA	A	U	D	SD
11.	The shop program should be "tougher." ---	SA	A	U	D	SD
12.	The shop courses, in general, have subject matter sufficient to challenge above-average students. ----------	SA	A	U	D	SD

13. The shop subjects with hand work and theory are well suited to senior high school. ---------- SA A U D SD

14. Shop subjects are "frills" that tend to lead a student away from the real purpose of high school. ---------- SA A U D SD

16. Students who have the three-year shop course have a better chance to find a job in industry than have students with a three-year academic program. ---------- SA A U D SD

17. Shop study should be given as laboratory courses to supplement or aid science and mathematics rather than as courses to train for technical skills and knowledge. ---------- SA A U D SD

18. The shop program should be removed from the high school and offered through technical schools and community colleges. ---------- SA A U D SD

20. A Grade XII student should be allowed to choose a five credit shop subject for matriculation (in Engineering or Education) instead of one of the traditional academic subjects. ------ SA A U D SD

The responses to the five items numbered 10, 11, 12, 13, and 14, were used to assess prestige.

It was assumed that the response score for groups and sub-groups for the ten or the five items could be determined as explained for one item, if these items all measured the same dimension. Assistance from a panel of seven judges led to the final acceptance of the ten items to measure social acceptance and the five items to measure prestige. In the analysis of the judgments, two disapprovals were considered sufficient for a rejection of an item. The questions as presented to the panel

of judges are contained in Appendix C.

To test the significance of the difference between certain groups or sub-group attitude scores, the Chi-square test was used. Thus, for example, to determine whether or not the average score of 27.48 for academic teachers represents a score significantly less favourable towards the technical electives program than a somewhat high score for the other staff members, the observed frequencies would be those of the academic teachers and the expected frequencies would be determined as being proportional to the distribution for the other teachers.

Evaluating Responses Relative to Enrolment, Program Characteristics, and Policies

To assess attitudes influencing enrolment, and attitudes relating to characteristics and policies, the method of scaled values was used as described for the assessment of attitudes for social acceptance and prestige. In this phase of the study, however, the items were treated separately and the responses--SA A U D SD--were not re-classified in accordance with the favourability scale noted on page 28.

CHAPTER IV

ATTITUDES RELATIVE TO SOCIAL ACCEPTANCE AND PRESTIGE

The purpose of this chapter is to provide an analysis of responses to items relating to social acceptance and prestige.

Social Acceptance

Although the ten items considered to be most applicable to the assessment of social acceptance or general favourability include the five items that apply to prestige, a separate analysis was made for each of these somewhat associated aspects.

As stated in Chapter III, responses relative to social acceptance and prestige were re-classified into categories of favourability towards the technical electives from categories of agreement with reference to items or statements. Group frequencies for such responses for the ten items as well as percentage entries based on the frequencies are shown in Table VII. Similarly, such data for the sub-groups are shown in Table VIII.

In Table VII the frequencies with corresponding percentage entries of the various responses for the groups show the boys as the group having the highest degree of favourability with reference to the shop program. Data in Table VIII indicate that, of the sub-groups, the shop and home economics teachers are highest in favour, with the boys with shop experience in second place.

Since the attitude scale contains five intervals, the tabulation of

frequencies as in Tables VII and VIII does not permit easy comparisons. To assist in the analysis, comparative quantitative scores were used as described in Chapter III. Briefly, the method of determining the attitude score for a group or sub-group consisted on adding the scores for each of the ten items and computing the mean.

TABLE VII

RESPONSES IN ACTUAL FREQUENCIES AND PERCENTAGE OCCURRENCE FOR GROUPS FOR THE TEN ITEMS RELATING TO SOCIAL ACCEPTANCE

Group		Highly Unfavourable	Unfavour-able	Indiffer-ent	Favour-able	Highly Favourable
Boys	f	248	729	1154	2502	1007
	%	4	13	21	44	18
Staff	f	46	209	306	519	170
	%	4	19	24	41	14
Fathers	f	102	386	400	905	207
	%	5	19	20	45	11

TABLE VIII

RESPONSES IN ACTUAL FREQUENCIES AND PERCENTAGE OCCURRENCE FOR SUB-GROUPS FOR THE TEN ITEMS RELATING TO SOCIAL ACCEPTANCE

Sub-group		Highly Unfavourable	Unfavourable	Indifferent	Favourable	Highly Favourable
Boys:						
Shop-boys	f	192	572	798	2048	900
	%	4	13	18	45	20
Non-shop boys	f	56	157	356	454	107
	%	5	14	31	40	10
Staff:						
Counsel.-Admin.	f	2	21	52	91	24
	%	1	11	27	48	13
Academic	f	38	143	203	287	59
	%	5	20	28	39	8
Business Educ.	f	2	27	27	63	11
	%	2	21	21	48	8
Shop and Home Ec.	f	4	18	24	78	76
	%	2	9	12	39	38
Fathers:						
Professional	f	8	51	45	90	16
	%	4	24	21	43	8
Managerial	f	26	95	81	204	34
	%	6	21	18	47	8
Indus.-Technical	f	26	113	99	254	68
	%	5	20	18	45	12
Others	f	42	127	175	357	89
	%	5	16	22	46	11

For the three groups of respondents, Table IX shows the attitude scores and the meaning of these scores in terms of categories of favourability.

TABLE IX

GROUP ATTITUDE SCORES FOR THE TEN ITEMS RELATING TO SOCIAL ACCEPTANCE, AND THE GROUP RESPONSE INDICATED BY THE SCORES

Group	Attitude Score	Response Indicated	Rank Order*
Boys	30.13	Favourable	1
Staff	28.89	Favourable	2
Fathers	28.07	Indifferent	3

*Highest attitude score indicates greatest degree of favourability and is given position "1" in rank order.

The categories of favourability for group or sub-group scores were determined by adding the scaled values for the ten items and finding the mean. As shown in Table X, the mean scaled value for the category "Indifferent" is "24". Group or sub-group attitude scores nearer to "24" than to any other mean scaled value would indicate "indifferent" responses.

It is realized that the ranges of values are for convenience as indicators and that divisions cannot be sharply defined. In considering, for instance, the response for the staff group, the score "28.89" in Table IX is close to the division "28.80" between categories, and it may be stated that the response category is "indifferent to favourable."

TABLE X

THE RANGE OF SCALED VALUES FOR EACH CATEGORY OF FAVOURABILITY

	Highly Unfavourable	Unfavourable	Indifferent	Favourable	Highly Favourable
Mean Values for the Ten Items	8.00	17.30	24.00	33.60	46.20
Range of Values for Categories	less than 12.65	12.66 to 19.20	19.21 to 28.80	28.81 to 39.90	39.91 to 46.20

According to the scores in Table IX the boys show greater favour towards the technical electives than do the staff or fathers groups. The Chi-square test shows that differences are significant at the .01 level of confidence. Table XI shows the test with the expected frequencies determined as being proportional to those observed for the staff group. A similar test to compare staff and fathers, however, revealed no statistically significant difference. The .05 level of confidence was accepted as being indicative of a significant difference.

TABLE XI

CHI-SQUARE TEST TO COMPARE ATTITUDES OF BOYS AND STAFF GROUPS IN SOCIAL ACCEPTANCE OF TECHNICAL ELECTIVES

		Highly Unfavourable	Unfavour-able	Indiffer-ent	Favour-able	Highly Favourable	N
Boys	f_o	24.8	72.9	115.4	250.2	100.7	564
Staff		4.6	20.9	30.6	51.9	17.0	125
	f_e	20.8	94.3	138.1	234.1	76.7	564
(f_o-f_e)		4.0	21.4	22.7	16.1	24.0	
$(f_o-f_e)^2$		16.00	457.96	515.29	259.21	576.00	
$\frac{(f_o-f_e)^2}{f_e}$		.77	4.85	3.73	1.11	7.51	

$$X^2 = \frac{(f_o-f_e)^2}{f_e} = 17.97$$

df = 4

Significant at .01 level

In a form similar to that of Table IX for groups, Table XII shows the sub-group scores as they relate to social acceptance.

Only three of the mean scores in Table XII fall within the "favourable" range as described in Table X. The three sub-groups, shop and home economics teachers, the shop boys, and the counsellor-administrator staff members, register attitudes favourable to the shop program. All other sub-groups have mean scores in the "indifferent" interval of the scale.

TABLE XII

SUB-GROUP ATTITUDE SCORES FOR THE TEN ITEMS RELATING TO SOCIAL ACCEPTANCE AND THE RESPONSES INDICATED BY THE SCORES

Sub-group	Attitude Score	Response Indicated	Rank Order*
Boys:			
Shop Boys	30.85	Favourable	2
Non-shop Boys	27.26	Indifferent	8
Staff:			
Counsel.-Admin.	30.12	Favourable	3
Academic	27.15	Indifferent	9
Business Educ.	28.57	Indifferent	5
Shop and Home Ec.	34.29	Favourable	1
Fathers:			
Professional	26.75	Indifferent	10
Managerial	27.27	Indifferent	7
Indus.-Technical	28.26	Indifferent	6
Others	28.73	Indifferent	4

*Highest attitude score indicates the greatest degree of favourability and is ranked in position "1".

The ordering of sub-groups on the basis of attitude scores places the teachers of shop and home economics, the boys who have had high school shop experience, and the administrators and counsellors, as the three highest in favourability towards the shop program. The three sub-groups lowest in favourability according to scores are the fathers classed as professional people, the academic teachers, and the boys with no high school shop experience.

Some of the differences indicated by the sub-group scores were tested for significance using Chi-square as illustrated for the groups. It was found that statistically significant differences (at .01 level) existed between the shop teachers and shop boys; between the shop boys and the non-shop boys; between the shop teachers and the remainder of the teaching and administrative staff; and between the academic teachers and the remainder of the staff. No significant difference between attitudes of professional fathers and the other sub-groups of fathers was observed.

Prestige

Five of the ten items were studied to assess the prestige of the high school shop program. The procedure was similar to that applied to the more general attitudes towards social acceptance.

As for social acceptance, the responses were classified in categories of favourability. Group frequencies for the responses relative to prestige are shown in Table XIII with percentage entries computed from the frequencies.

TABLE XIII

RESPONSES IN ACTUAL FREQUENCIES AND PERCENTAGE OCCURRENCE FOR THE GROUPS FOR THE FIVE ITEMS RELATING TO PRESTIGE

Group		Highly Unfavourable	Unfavourable	Indifferent	Favourable	Highly Favourable
Boys	f	117	376	548	1358	421
	%	4	13	20	48	15
Staff	f	18	93	155	268	91
	%	3	15	25	43	14
Fathers	f	54	206	229	438	73
	%	5	21	23	44	7

Sub-group response frequencies for items relating to prestige together with the percentages, are given in Table XIV.

TABLE XIV

RESPONSES IN ACTUAL FREQUENCIES AND PERCENTAGE OCCURRENCE FOR THE GROUPS FOR THE FIVE ITEMS RELATING TO PRESTIGE

Sub-group		Highly Unfavourable	Unfavourable	Indifferent	Favourable	Highly Favourable
Boys:						
Shop Boys	f	96	300	334	1134	391
	%	4	13	15	50	18
Non-shop Boys	f	21	76	214	224	30
	%	4	13	38	40	5
Staff:						
Counsel. - Admin.	f	1	7	20	52	15
	%	1	7	21	55	15
Academic	f	14	59	108	151	33
	%	4	16	29	42	9
Business Educ.	f	0	16	16	29	4
	%	0	25	25	44	6
Shop & Home Ec.	f	3	11	11	36	39
	%	3	11	11	36	39
Fathers:						
Professional	f	6	22	27	44	6
	%	6	21	25	42	6
Managerial	f	12	53	54	88	13
	%	5	24	25	40	6
Indus. - Technical	f	15	71	47	132	15
	%	6	25	17	46	6
Others	f	21	60	101	174	39
	%	5	15	26	44	10

Attitude scores on prestige and the responses they indicate were determined for the three groups and the ten sub-groups. Such information applying to the three groups is given in Table XV.

TABLE XV

GROUP ATTITUDE SCORES FOR THE FIVE ITEMS RELATING TO PRESTIGE, AND THE GROUP RESPONSE INDICATED BY THE SCORES

Group	Attitude Score	Response Indicated	Rank Order*
Boys	29.82	Favourable	1
Staff	29.36	Favourable	2
Fathers	26.70	Indifferent	3

*Highest attitude score indicates the greatest degree of prestige accorded the high school technical program and is ranked in position "1."

The response categories in which to place the attitude scores in Table XV were obtained by adding the scaled values for the five items and determining the mean. For prestige these categories of favourability would perhaps refer more correctly to degrees of social recognition or esteem. The range of values for each category is shown in Table XVI.

TABLE XVI

RANGE OF SCALED VALUES FOR EACH TYPE OF RESPONSE REPRESENTATIVE OF PRESTIGE

	Highly Unfavourable	Unfavourable	Indifferent	Favourable	Highly Favourable
Mean Values for the Five Items	7.80	17.20	23.80	34.00	47.00
Range of Values for Categories	less than 12.50	12.50 to 20.50	20.51 to 28.90	28.91 to 40.50	more than 40.50

NOTE: This table suggests that to show favourable or positive prestige a subject or group would have a score greater than 28.90.

The sub-group scores as they relate to prestige and the responses that these scores indicate are shown in Table XVII.

TABLE XVII

SUB-GROUP ATTITUDE SCORES FOR THE FIVE ITEMS RELATING TO PRESTIGE AND THE RESPONSES INDICATED BY THE SCORES

Sub-groups	Attitude Score	Prestige Indicated	Rank Order*
Boys:			
Shop Boys	30.79	Favourable	3
Non-shop Boys	25.96	Indifferent	10
Staff:			
Counsel.-Admin.	31.61	Favourable	2
Academic Teachers	27.68	Indifferent	5
Business Educ.	27.32	Indifferent	6
Shop & Home Ec.	34.72	Favourable	1
Parents:			
Professional	26.06	Indifferent	7
Managerial	25.93	Indifferent	9
Indus.-Technical	26.06	Indifferent	8
Others	27.76	Indifferent	4

*Highest attitude score indicates the greatest degree of prestige accorded the high school technical program and is ranked in position "1."

Data in Table XV show that, for the groups, the boys accord the shop program greater prestige than do the staff or the fathers. Boys and staff members appear to regard the shop program with favourability, while the fathers are "indifferent."

Attitude scores indicative of prestige in Table XVII place the shop and home economics teachers highest of the sub-groups, the counsellor-administrator staff members second, and the boys with shop experience third. These three are the only sub-groups in the favourable range. Least prestige is shown by the boys with no high school shop experience. Fathers in the managerial, professional, and industrial-technical occupations have scores that place them collectively second lowest.

The Chi-square test for significance of differences was applied in certain instances to establish support for the indications provided by scores and frequencies of responses. Through the use of Chi-square, the difference in prestige scores between boys and staff, and between staff and fathers, were found to be significant at the .01 level of confidence. No statistically significant difference was found between the shop and home economics teachers and the shop boys in attitudes relating to prestige. Nor was any statistically significant difference found between shop and home economics teachers and the counsellor-administrator sub-groups. In attitudes relating to prestige, the academic teachers were observed to be significantly lower (at .01 level) than the remainder of the school staff.

Table XVIII shows the application of the Chi-square test to determine whether or not the prestige score of 29.82 for boys is significantly different from the score of 29.36 for the staff. This table may serve to illustrate the method used for other tests on prestige.

TABLE XVIII

CHI-SQUARE TEST TO COMPARE BOYS AND STAFF GROUPS IN ATTITUDES INDICATIVE OF PRESTIGE ACCORDED THE TECHNICAL ELECTIVES

		Highly Unfavourable	Unfavourable	Indifferent	Favourable	Highly Favourable
Boys	f_o	117	376	548	1358	421
Staff		18	93	155	268	91
	f_e	81	420	699	1209	411
(f_o-f_e)		36	44	151	149	10
$(f_o-f_e)^2$		1296	1936	22801	22201	100
$\frac{(f_o-f_e)^2}{f_e}$		11.08	5.15	32.48	18.36	.24

$X^2 = 1/5$ $\quad \frac{(f_o-f_e)^2}{f_e} = 13.46$ $\quad df = 4$

Significant at .01 level

An effort was made to determine whether high prestige is accorded the technical electives because of the challenge they present to students or because of the appropriateness or suitability of the contents of these subjects for high school education. Items 10 and 11 were thought to relate to the challenge or difficulty and items 12, 13 and 14, to suitability. The mean score for the two items referring to difficulty was compared with the mean score for the three items referring to suitability. Since the scoring or scaling was computed in terms of standard deviations, the responses to separate items may be compared as previously stated. The

score for "difficulty" was 27.61, and for "suitability," 30.02. It appears that with such difference in scores the population has more regard for the suitability of the shop subjects for high school than for the challenge these subjects present to students.

The Chi-square test showed that "suitability" was a much greater factor in establishing higher prestige than was "difficulty." Data involved in the test are given in Table XIX.

TABLE XIX

CHI-SQUARE TEST TO COMPARE "DIFFICULTY" OF THE SHOP PROGRAM WITH "SUITABILITY" AS DETERMINANTS OF PRESTIGE

	Highly Unfavourable	Unfavourable	Indifferent	Favourable	Highly Favourable
Difficulty f_o	60	212	250	297	70
Suitability f_e	23	84	144	490	148
(f_o-f_e)	37	128	106	193	78
$(f_o-f_e)^2$	1369	16384	11236	37249	6084
$\frac{(f_o-f_e)^2}{f_e}$	59.29	195.05	78.02	76.02	41.11

$$X^2 = \frac{(f_o-f_e)^2}{f_e} = 449.49 \qquad df = 4.$$

Highly significant difference.

Summary

The shop and home economics teachers, the boys with shop experience, and counsellor-administrator sub-groups, show the most favourable attitudes for acceptance and recognition of the shop program. Fathers in professional and managerial occupations, academic teachers, and boys with no high school shop experience were ranked low in acceptance and prestige relative to the shop program.

Boys accorded the shop program the highest prestige. The staff group was second, while the fathers were lowest. The differences among groups were found significant statistically. The academic teachers accorded significantly less prestige to the shop program than did the remainder of the staff. Only the shop and home economics teachers, the counsellor-administrator, and the shop boys sub-groups, made score in the "favourable" range. All other sub-group scores indicated indifference.

More regard was shown by the respondents collectively for the suitability of the subject matter than for the difficulty or challenge of the shop program. This finding was based on the assumption that the two aspects may be compared through the average scores on sets of items appearing to refer respectively to these aspects. The finding indicates an opinion of respondents that, considering the quality and sufficiency of the subject matter, the technical program lacks challenge or scholarship.

CHAPTER V

ATTITUDES RELATIVE TO ENROLMENT

The purpose of Chapter V is to analyze the responses to certain items that relate to enrolment and dropout in the high school technical program.

Presentation of Data

Eight of the items of the opinionnaire were prepared with a view to obtaining information about attitudes that would assist in ascertaining some of the factors affecting enrolment and dropout in the technical electives. Specifically, the items or statements concerned student interest, the challenge of the technical electives to students, the guidance or direction given by parents, the guidance given by the school staff, the relation of the shop program to post high school technical training, and the lack of recognition of the technical courses as preparation for university.

Each item having reference to aspects of enrolment in technical electives was summarized as to the frequency of responses, the percentages, and, for more direct comparison, attitude scores. Only the sub-group attitudes were considered. The scores, as explained in Chapter III, were based on scaled values and the frequencies for each type of response. The mean scores provide a comparison of attitudes for the sub-groups as well as an indication of the collective response. In Table XX, for example, the score "27.46" for shop boys suggests an

"Agree" response because it is nearest to the scaled value, "27," for "Agree."

Tables XX to XXVII, inclusive, provide data for the analysis of responses for the eight items having reference to student enrolment and dropout. The summary of the findings for this section of the study follows the tables.

TABLE XX

FOR ITEM #1, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #1 -		Most boys in high school find the shop subjects more interesting than academic subjects.					
		SA	A	U	D	SD	
Scaled Values		14	27	36	43	54	
Boys:							Score
Shop Boys	f	86	260	55	47	3	27.46 (A)*
	%	19	58	12	10	1	
Non-shop Boys	f	6	56	30	17	4	32.07 (U)
	%	5	50	27	15	3	
Staff:							
Counsel. - Admin.	f	0	5	6	8	0	36.57 (U)
	%	0	26	32	42	0	
Academic	f	0	10	31	31	1	37.99 (U)
	%	0	14	42	42	1	
Business Educ.	f	0	1	3	5	4	43.54 (D)
	%	0	8	23	38	31	
Shop & Home Ec.	f	3	7	8	2	0	30.25 (A)
	%	15	35	40	10	0	
Fathers:							
Professional	f	2	5	5	8	1	35.29 (U)
	%	9	24	24	38	5	
Managerial	f	2	22	8	12	0	32.41 (U)
	%	5	50	18	27	0	
Indus. - Technical	f	8	30	10	7	1	29.23 (A)
	%	14	54	18	12	2	
Others	f	10	43	10	14	2	30.01 (A)
	%	13	53	13	18	3	

*The response indicated is based on the score in relation to scaled values. For this item the lowest scores would indicate the most intense attitudes of agreement towards the statement.

TABLE XXI

FOR ITEM #2, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #2 -		Many students discontinue shop after Grade X because they find the shop program too easy and unchallenging.					
		SA	A	U	D	SD	
Scaled Values		3	12	19	30	44	
Boys:							Score
Shop Boys	f	4	21	28	274	124	32.09 (D)*
	%	1	5	6	61	27	
Non-shop Boys	f	0	3	23	68	19	29.64 (D)
	%	0	3	20	60	17	
Staff:							
Counsel. - Admin.	f	0	1	1	13	4	31.42 (D)
	%	0	5	5	69	21	
Academic	f	1	7	31	30	4	24.00 (U)
	%	1	10	42	41	6	
Business Educ.	f	0	4	4	5	0	21.08 (U)
	%	0	31	31	38	0	
Shop & Home Ec.	f	0	1	2	11	6	32.20 (D)
	%	0	5	10	55	30	
Fathers:							
Professional	f	0	3	7	10	1	24.43 (U)
	%	0	14	33	48	5	
Managerial	f	2	3	8	28	3	26.50 (D)
	%	5	7	18	63	7	
Indus. - Technical	f	0	8	8	34	6	27.36 (D)
	%	0	14	14	61	11	
Others	f	2	7	14	40	16	28.61 (D)
	%	2	9	18	51	20	

*The response indicated is based on the score in relation to scaled values. For this item the lowest scores would indicate the most intense attitudes of agreement towards the statement.

TABLE XXII

FOR ITEM #3, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #3 - Many students of average ability do not enrol in the second or third year of a shop subject because they found the course too difficult.

		SA	A	U	D	SD	
Scaled Values		54	44	36	26	13	
Boys:							Score
Shop Boys	f	7	81	93	210	60	30.00 (D)*
	%	2	18	21	46	13	
Non-shop Boys	f	1	12	56	36	8	32.19 (U)
	%	1	11	49	32	7	
Staff:							
Counsel. - Admin.	f	0	5	2	11	1	31.11 (U)
	%	0	26	11	58	5	
Academic	f	1	7	32	29	4	31.78 (U)
	%	1	9	44	40	6	
Business Educ.	f	0	1	4	7	1	29.46 (D)
	%	0	8	30	54	8	
Shop & Home Ec.	f	2	9	3	6	0	38.40 (U)
	%	10	45	15	30	0	
Fathers:							
Professional	f	1	0	2	13	5	25.19 (D)
	%	5	0	9	62	24	
Managerial	f	0	1	8	28	7	26.15 (D)
	%	0	2	18	64	16	
Indus. - Technical	f	2	10	11	28	5	31.02 (U)
	%	4	18	19	50	9	
Others	f	0	5	14	46	14	26.61 (D)
	%	0	6	18	58	18	

*The response indicated is based on the score in relation to scaled values. For this item the highest scores would indicate the most intense attitudes of agreement towards the statement.

TABLE XXIII

FOR ITEM #4, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #4 - Parents, in general, urge their sons to follow the matriculation pattern, even if it does not suit the students' interests and abilities.

		SA	A	U	D	SD	
Scaled Values		13	26	35	41	51	
Boys:							Score
Shop Boys	f	59	213	71	85	23	29.82 (A)*
	%	13	47	16	19	5	
Non-shop Boys	f	17	49	15	25	7	30.10 (A)
	%	15	44	13	22	6	
Staff:							
Counsel. - Admin.	f	5	14	0	0	0	22.58 (A)
	%	26	74	0	0	0	
Academic	f	8	35	14	15	1	29.72 (A)
	%	11	48	19	21	1	
Business Educ.	f	2	9	1	1	0	25.85 (A)
	%	15	69	8	8	0	
Shop & Home Ec.	f	5	10	4	1	0	25.30 (A)
	%	25	50	20	5	0	
Fathers:							
Professional	f	2	14	2	2	1	28.24 (A)
	%	10	66	10	10	4	
Managerial	f	4	27	3	8	2	29.29 (A)
	%	9	61	7	18	5	
Indus. - Technical	f	9	29	3	13	2	28.77 (A)
	%	16	52	5	23	4	
Others	f	4	32	21	15	7	32.72 (U)
	%	5	40	27	19	9	

*The response indicated is based on the score in relation to scaled values. For this item the lowest scores would indicate the most intense attitudes of agreement towards the statement.

TABLE XXIV

FOR ITEM #5, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #5 -		Able students, even if they show interest and aptitude in the shop program, should be urged by the teacher or counsellor to stay with an academic program.					
		SA	A	U	D	SD	
Scaled Values		12	22	27	34	44	
Boys:							Score
Shop Boys	f	38	97	50	161	105	31.12 (D)*
	%	9	21	11	36	23	
Non-shop Boys	f	22	40	11	26	14	26.03 (U)
	%	20	35	10	23	12	
Staff:							
Counsel. - Admin.	f	1	10	1	6	1	26.68 (U)
	%	5	53	5	32	5	
Academic	f	10	24	6	27	6	25.92 (U)
	%	14	33	8	37	8	
Business Educ.	f	0	4	0	5	4	33.38 (D)
	%	0	31	0	38	31	
Shop & Home Ec.	f	0	1	4	5	10	43.00 (SD)
	%	0	5	20	25	50	
Fathers:							
Professional	f	3	9	0	7	2	26.67 (U)
	%	14	43	0	33	10	
Managerial	f	10	17	0	13	4	25.30 (U)
	%	23	39	0	29	9	
Indus. - Technical	f	8	16	6	20	6	27.75 (U)
	%	14	28	11	36	11	
Others	f	4	17	8	35	15	31.49 (D)
	%	5	22	10	44	19	

*The response indicated is based on the score in relation to scaled values. For this item the lowest scores would indicate the most intense attitudes of agreement towards the statement.

TABLE XXV

FOR ITEM #6, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #6 -	The enrolment of "A" students in second and third year shop would be greatly increased if the program had a closer connection with apprenticeship schemes and technical schools.					
		SA	A	U	D	SD	
Scaled Values		17	30	39	47	57	
Boys:							Score
Shop Boys	f	118	208	96	25	4	29.69 (A)*
	%	26	46	21	55	89	
Non-shop Boys	f	19	49	37	7	1	32.58 (A)
	%	17	43	33	6	1	
Staff:							
Counsel. - Admin.	f	0	13	2	4	0	34.53 (U)
	%	0	68	11	21	0	
Academic	f	11	35	19	8	0	27.45 (A)
	%	15	48	26	11	0	
Business Educ.	f	0	13	0	0	0	30.00 (A)
	%	0	100	0	0	0	
Shop & Home Ec.	f	5	12	2	1	0	28.50 (A)
	%	25	60	10	5	0	
Fathers:							
Professional	f	3	7	2	8	0	34.05 (A)
	%	16	34	11	39	0	
Managerial	f	8	23	6	7	0	31.57 (A)
	%	18	52	14	16	0	
Indus. - Technical	f	28	18	6	4	0	25.68 (A)
	%	50	32	11	7	0	
Others	f	22	37	13	7	0	29.37 (A)
	%	28	47	16	9	0	

*The response indicated is based on the score in relation to scaled values. For this item the lowest scores would indicate the most intense attitudes of agreement towards the statement.

TABLE XXVI

FOR ITEM #7, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #7 - If a shop subject, such as Electricity 30, or "Applied Mechanics" 30, were on the matriculation list, it would be as popular (for boys) as the "average" matriculation subject.

		SA	A	U	D	SD	
Scaled Values		45	32	22	15	6	
Boys:							Score
Shop Boys	f	89	226	78	50	8	30.49 (A)*
	%	20	50	17	11	2	
Non-shop Boys	f	12	55	23	17	6	27.41 (A)
	%	11	49	20	15	5	
Staff:							
Counsel. - Admin.	f	2	10	6	1	0	29.32 (A)
	%	11	52	32	5	0	
Academic	f	9	38	20	6	0	29.47 (A)
	%	13	52	27	8	0	
Business Educ.	f	0	10	3	0	0	29.69 (A)
	%	0	77	23	0	0	
Shop & Home Ec.	f	10	9	1	0	0	38.00 (A)
	%	50	45	5	0	0	
Fathers:							
Professional	f	4	11	3	3	0	30.63 (A)
	%	19	53	14	14	0	
Managerial	f	6	32	3	2	1	31.72 (A)
	%	14	73	7	4	2	
Indus. - Technical	f	13	33	7	2	1	33.04 (A)
	%	23	59	13	3	2	
Others	f	13	35	12	17	2	28.30 (A)
	%	17	44	15	21	3	

*The response indicated is based on the score in relation to scaled values. For this item the highest scores would indicate the most intense attitudes of agreement towards the statement.

TABLE XXVII

FOR ITEM #9, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #9 -		Low prestige or regard for the shop program discourages many students from enrolling in shop subjects.					
		SA	A	U	D	SD	
Scaled Values		9	22	30	38	51	
Boys:							Score
Shop Boys	f	21	135	99	162	34	31.08 (U)*
	%	5	30	22	36	7	
Non-shop Boys	f	5	40	28	35	5	29.65 (U)
	%	4	35	25	32	4	
Staff:							
Counsel. - Admin.	f	1	5	2	9	2	32.79 (U)
	%	5	26	11	47	11	
Academic	f	4	37	10	20	2	27.56 (U)
	%	6	50	14	27	3	
Business Educ.	f	2	8	1	2	0	23.07 (A)
	%	15	62	8	15	0	
Shop & Home Ec.	f	3	12	0	5	0	24.05 (A)
	%	15	60	0	25	0	
Fathers:							
Professional	f	2	7	6	6	0	27.62 (U)
	%	9	33	29	29	0	
Managerial	f	3	14	5	21	1	30.27 (U)
	%	7	32	11	48	2	
Indus. - Technical	f	3	11	13	27	2	31.89 (U)
	%	5	20	23	48	4	
Others	f	3	31	18	25	2	29.12 (U)
	%	4	39	23	31	3	

*The response indicated is based on the score in relation to scaled values. For this item the lowest scores would indicate the most intense attitudes of agreement towards the statement.

Summary of Findings

In Item 1, Table XX, boys with high school shop experience agree that shop subjects are more interesting than academic subjects, while the boys with no shop experience are uncertain. Business education teachers were the only sub-group to register a score indicative of disagreement with the statement.

Data for Items 2 and 3 referring to the challenge to students apparently reveal that the shop courses are not regarded by the boys as being too easy and unchallenging, nor are they regarded as being too difficult. Lower scores for business education teachers, academic teachers, and professional fathers, point to an opinion that the shop courses may be too easy and unchallenging.

It is interesting to note, in Table XXIII, that all sub-groups, except the fathers unclassified as to occupation, agree with the statement that parents urge their sons to follow the matriculation pattern, even if it does not suit the students' interests and abilities. Respondents who appear to be most certain of this, are the "counsellor-administrator" sub-group.

In Table XXIV the responses, in general, to the statement that school counsellors and teachers should urge able students to follow an academic program, point to uncertainty. However, shop boys disagree with the suggestion, and shop and home economics teachers strongly disagree. The comparatively low scores for academic teachers and for counsellors and administrators would suggest that they do favour urging able students to maintain an academic path through high school.

This view, however, may be based on the knowledge that the academic program leads to university, rather than on a view that the technical program is not suitable for able students.

Responses to Item 6 as presented in Table XXV, suggest that the boys in high school feel that a considerable number of "A" students would enrol in shop subjects if the program led to credit or recognition in technical training institutions beyond the high school. All sub-groups except the counsellors and/or administrators agreed with the statement.

Item 7 was used to consider whether classifying subjects as matriculation subjects would, in itself, affect enrolment. It seems that boys in senior high school agree that if shop subjects were accepted in a university preparation program they would be elected as readily as academic subjects. All sub-groups agreed (Table XXVI) that if a shop subject were placed on the matriculation list it would be as popular for boys as the "average" matriculation subject.

Response data for Item 9 in Table XXVII revealed that, considering the boys' score, there is no definite indication that low prestige is a factor affecting enrolment in technical electives. However, the shop and home economics teachers and the business education teachers agreed that low prestige attached to the shop program had an adverse effect upon enrolment. All other sub-groups appeared undecided.

CHAPTER VI

ATTITUDES TOWARDS CERTAIN CHARACTERISTICS OF THE SHOP PROGRAM AND ADMINISTRATIVE POLICIES

The purpose of this chapter is to analyze the responses to items that relate to certain characteristics and to certain administrative policies relating to technical electives.

I. ATTITUDES TOWARDS CHARACTERISTICS

Five of the items of the opinionnaire were used to study attitudes towards some of the characteristics or aspects of the high school technical electives. These items or statements were placed in the tables used in the presentation of data.

Presentation of Data

For each of the five items referring to characteristics the data for analysis of responses consisted of the frequencies of the responses, the percentages, and the attitude scores. Attitude scores, as previously explained, were based on the scaled values and the frequencies for each type of response.

Tables XXVIII to XXXII, inclusive, present the response data for five opinionnaire items that refer to the described characteristics of the shop program. A summary of the findings for this section of the study follows the tables.

TABLE XXVIII

FOR ITEM #14, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #14		Shop subjects are "frills" that tend to lead a student away from the real purpose of high school.					
		SA	A	U	D	SD	
Scaled Values		6	15	20	29	42	
Boys:							Score
Shop Boys	f	4	30	39	208	170	31.99 (D)*
	%	1	7	9	46	37	
Non-shop Boys	f	4	17	19	57	16	26.41 (D)
	%	3	15	17	51	14	
Staff:							
Counsel.-Admin.	f	0	0	0	10	9	34.74 (D)
	%	0	0	0	53	47	
Academic	f	1	7	11	41	13	28.22 (D)
	%	1	10	15	56	18	
Business Educ.	f	0	2	0	7	4	30.88 (D)
	%	0	15	0	54	31	
Shop & Home Ec.	f	1	0	1	3	15	37.15 (SD)
	%	5	0	5	15	75	
Fathers:							
Professional	f	1	4	3	9	4	26.43 (D)
	%	5	19	14	43	19	
Managerial	f	2	7	3	25	7	27.18 (D)
	%	5	16	7	56	16	
Indus.-Technical	f	3	5	4	36	8	27.58 (D)
	%	6	9	7	64	14	
Others	f	5	4	7	44	19	29.17 (D)
	%	6	5	9	56	24	

*The response indicated is based on the score in relation to scaled values. For this item the lowest scores would indicate the most intense attitudes of agreement towards the statement.

TABLE XXIX

FOR ITEM #15, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #15 -		The shop program should teach more principles, problems and theory and less hand skill work.					
		SA	A	U	D	SD	
Scaled Values		7	15	24	31	43	
Boys:							Score
Shop Boys	f	11	32	51	199	158	32.69 (D)*
	%	3	7	11	44	35	
Non-shop Boys	f	2	8	35	46	22	29.61 (D)
	%	2	7	31	41	19	
Staff:							
Counsel. - Admin.	f	0	1	6	11	1	28.42 (D)
	%	0	5	32	58	5	
Academic	f	2	9	29	30	3	26.08 (U)
	%	3	12	40	41	4	
Business Educ.	f	0	2	5	5	1	26.00 (U)
	%	0	15	39	39	7	
Shop & Home Ec.	f	4	3	4	8	1	23.00 (U)
	%	20	15	20	40	5	
Fathers:							
Professional	f	0	1	6	11	3	29.52 (D)
	%	0	5	29	52	14	
Managerial	f	2	10	5	24	3	26.30 (U)
	%	4	23	11	55	7	
Indus. - Technical	f	1	7	11	28	9	29.13 (D)
	%	2	12	20	50	16	
Others	f	2	10	21	35	11	28.18 (D)
	%	3	13	25	45	14	

*The response indicated is based on the score in relation to scaled values. For this item the lowest scores would indicate the most intense attitudes of agreement towards the statement.

TABLE XXX

FOR ITEM #16, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #16 -		Students who have the three-year shop course have a better chance to find a job in industry than have students with a three-year academic program.					
		SA	A	U	D	SD	
Scaled Values		52	40	31	23	12	
Boys:							Score
Shop Boys	f	49	120	166	94	22	29.51 (U)*
	%	11	26	37	21	5	
Non-shop Boys	f	17	42	33	19	2	26.16 (D)
	%	15	37	29	17	2	
Staff:							
Counsel. - Admin.	f	1	6	9	3	0	28.89 (U)
	%	5	32	47	16	0	
Academic	f	7	22	26	16	2	29.31 (U)
	%	10	30	36	22	2	
Business Educ.	f	0	6	2	5	0	30.77 (U)
	%	0	46	15	39	0	
Shop & Home Ec.	f	0	3	7	6	4	36.70 (A)
	%	0	15	35	30	20	
Fathers:							
Professional	f	1	9	3	7	1	28.19 (U)
	%	5	43	14	33	5	
Managerial	f	3	16	8	15	2	30.82 (U)
	%	7	36	18	34	5	
Indus. - Technical	f	3	16	15	20	2	31.77 (U)
	%	5	29	27	35	4	
Others	f	8	20	22	24	5	31.11 (U)
	%	10	25	28	31	6	

*The response indicated is based on the score in relation to scaled values. For this item the highest scores would indicate the most intense attitudes of agreement towards the statement.

TABLE XXXI

FOR ITEM #17, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #17 -		Shop study should be given as laboratory courses to supplement or aid science and mathematics rather than as courses to train for technical skills and knowledge.					
		SA	A	U	D	SD	
Scaled Values		7	17	25	34	46	
Boys:							Score
Shop Boys	f	19	56	95	205	76	30.88 (D)*
	%	4	12	21	46	17	
Non-shop Boys	f	3	11	42	43	14	29.77 (D)
	%	3	10	37	38	12	
Staff:							
Counsel. - Admin.	f	0	1	6	10	2	31.53 (D)
	%	0	5	32	53	10	
Academic	f	0	14	19	36	4	29.05 (U)
	%	0	19	26	49	6	
Business Educ.	f	0	0	2	8	3	35.38 (D)
	%	0	0	15	62	23	
Shop & Home Ec.	f	0	3	4	8	5	32.65 (D)
	%	0	15	20	40	25	
Fathers:							
Professional	f	0	8	5	8	0	25.38 (U)
	%	0	38	24	38	0	
Managerial	f	4	15	7	17	1	24.59 (U)
	%	9	34	16	39	2	
Indus. - Technical	f	2	15	15	21	3	26.71 (U)
	%	4	27	27	37	5	
Others	f	2	16	18	38	5	25.58 (U)
	%	3	20	23	48	6	

*The response indicated is based on the score in relation to scaled values. For this item the lowest scores would indicate the most intense attitudes of agreement towards the statement.

TABLE XXXII

FOR ITEM #18, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #18 - The shop program should be removed from the high school and offered through technical schools and community colleges.

		SA	A	U	D	SD	
Scaled Values		9	17	21	28	40	
Boys:							Score
Shop Boys	f	9	19	27	175	221	32.62 (D)*
	%	2	4	6	39	49	
Non-shop Boys	f	4	4	18	56	31	29.11 (D)
	%	4	4	16	49	27	
Staff:							
Counsel. - Admin.	f	0	2	5	9	3	26.90 (D)
	%	0	11	26	47	16	
Academic	f	11	21	14	19	8	21.94 (U)
	%	15	29	19	26	11	
Business Educ.	f	2	3	3	3	2	22.77 (U)
	%	15	23	23	23	16	
Shop & Home Ec.	f	1	1	1	10	7	30.35 (D)
	%	5	5	5	50	35	
Fathers:							
Professional	f	1	4	4	9	3	25.38 (D)
	%	5	19	19	43	14	
Managerial	f	4	5	5	23	7	26.14 (D)
	%	9	11	11	53	16	
Indus. - Technical	f	3	4	6	25	18	29.30 (D)
	%	5	7	11	45	32	
Others	f	6	7	8	42	16	27.43 (D)
	%	8	9	10	52	21	

*The response indicated is based on the score in relation to scaled values. For this item the lowest scores would indicate the most intense attitudes of agreement towards the statement.

Summary of Findings

An analysis of responses in Table XXVIII for Item 14 shows that all sub-groups disagree with the statement that shop subjects are "frills" tending to divert students away from genuine high school learning. Lowest scores indicative of least approval of technical electives as suitable high school subjects were those of the non-shop boys and the professional fathers. Highest scores were those of the shop and home economics teachers, the counsellor-administrator staff sub-group, and the boys with high school shop experience.

Data in Table XXIX suggest that shop boys would not approve of changing the technical program to apply more theory, principles, and problems and less hand skill work. Shop and home economics teachers, although undecided collectively, have the lowest score, suggesting that they are closest to agreement with the proposal. All sub-groups either disagree with the suggestion or are undecided.

Item 16, stating that students with high school shop training have a better opportunity for industrial employment, was intended to determine the recognition given to the vocational training aspect of technical electives. The shop and home economics teachers were the only sub-group agreeing with the statement, while the boys with no high school shop experience were the only group disagreeing.

It may be assumed that the counsellor-administrator sub-group, and the fathers in managerial occupations and in industrial-technical occupations would have a better knowledge of the relation between shop training and occupational opportunity. These three sub-groups, however, were "undecided," the fathers giving more recognition to shop training than the counsellor-administrator staff members.

Item 17 in Table XXXI stated that shop study should be given as a laboratory type supplement to academic courses. No sub-group agreed with the statement. All fathers and academic teachers were undecided, while the boys and the other three staff sub-groups disagreed.

Data in Table XXXII suggests that most of the respondent sub-groups feel that the shop program should be retained in the high school. Apparently most support would come from the shop boys, the shop and home economics teachers, and the fathers in industrial-technical occupations. Other sub-groups have scores in the "undecided" range. Academic teachers and business education teachers have the lowest scores suggesting that they least favour the present policy of offering technical electives in the senior high school.

II. ATTITUDES TOWARDS ADMINISTRATIVE POLICIES

The approach to the study of attitudes towards certain administrative policies was the same as for the foregoing section on characteristics of the shop program. A separation between the two sections, it was thought may facilitate reference to tables.

Presentation of Data

Four of the opinionnaire items (8, 19, 20, and 21) were considered in this section. The data, presented as for "characteristics," are contained in Tables XXXIII to XXXVI, inclusive.

A summary of the findings on the study of administrative policies follows the tables.

TABLE XXXIII

FOR ITEM #8, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #8		Students should be tested and classified and then directed to various programs--academic, home economics, technical, business education.					
		SA	A	U	D	SD	
Scaled Values		15	29	32	37	47	
Boys:							Score
Shop Boys	f	63	132	59	119	78	32.66 (U)*
	%	14	30	13	26	17	
Non-shop Boys	f	19	39	11	31	13	31.20 (U)
	%	17	34	10	28	11	
Staff:							
Counsel.- Admin.	f	2	8	1	8	0	31.05 (U)
	%	11	42	5	42	0	
Academic	f	13	32	11	14	3	29.23 (A)
	%	18	44	15	19	4	
Business Educ.	f	2	7	2	1	1	29.31 (A)
	%	15	54	15	8	8	
Shop & Home Ec.	f	7	7	0	5	1	27.00 (A)
	%	35	35	0	25	5	
Fathers:							
Professional	f	3	11	1	4	2	30.05 (A)
	%	14	52	5	19	10	
Managerial	f	11	23	3	5	2	27.43 (A)
	%	25	52	7	11	5	
Indus.- Technical	f	14	28	6	6	2	27.32 (A)
	%	25	50	11	11	3	
Others	f	23	36	7	7	6	27.27 (A)
	%	28	46	9	9	8	

*The response indicated is based on the score in relation to scaled values. For this item the lowest scores would indicate the most intense attitudes of agreement towards the statement.

TABLE XXXIV

FOR ITEM #19, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #19 -		"Departmental" examinations should cover other subjects besides the academic.					
		SA	A	U	D	SD	
Scaled Values		51	39	32	25	14	
Boys:							Score
Shop Boys	f	21	85	78	178	89	27.89 (D)*
	%	5	19	17	39	20	
Non-shop Boys	f	9	31	24	23	26	29.87 (U)
	%	8	28	21	20	23	
Staff:							
Counsel. - Admin.	f	0	5	1	11	2	27.89 (D)
	%	0	26	5	58	11	
Academic	f	3	27	12	26	5	31.10 (U)
	%	4	37	16	36	7	
Business Educ.	f	1	6	3	2	1	34.23 (U)
	%	8	46	23	15	8	
Shop & Home Ec.	f	5	13	1	0	1	40.40 (A)
	%	25	65	5	0	5	
Fathers:							
Professional	f	0	10	3	7	1	32.14 (U)
	%	0	48	14	33	5	
Managerial	f	1	19	8	15	1	32.64 (U)
	%	2	44	18	34	2	
Indus. - Technical	f	2	23	14	13	4	33.71 (U)
	%	4	41	25	23	7	
Others	f	7	31	22	16	3	34.33 (U)
	%	8	39	28	21	4	

*The response indicated for each sub-group is based on the score in relation to scaled values. For this item the highest scores would indicate the most intense attitudes of agreement towards the statement.

TABLE XXXV

FOR ITEM #20, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #20 - A Grade XII student should be allowed to choose a five credit shop subject for matriculation (in Engineering or Education) instead of one of the traditional academic subjects.

		SA	A	U	D	SD	Score
Scaled Values		44	32	22	15	7	
Boys:							
Shop Boys	f	101	214	98	27	11	30.89 (A)*
	%	22	48	21	6	3	
Non-shop Boys	f	18	57	26	7	5	29.45 (A)
	%	16	51	23	6	4	
Staff:							
Counsel. - Admin.	f	2	7	6	4	0	26.53 (U)
	%	10	37	32	21	0	
Academic	f	3	27	16	21	6	23.36 (U)
	%	4	37	22	29	8	
Business Educ.	f	2	8	1	2	0	30.46 (A)
	%	15	62	8	15	0	
Shop & Home Ec.	f	11	9	0	0	0	38.60 (SA)
	%	55	45	0	0	0	
Fathers:							
Professional	f	2	11	3	5	0	27.67 (A)
	%	10	52	14	24	0	
Managerial	f	5	29	4	4	2	29.55 (A)
	%	12	66	9	9	4	
Indus. - Technical	f	17	23	9	5	2	31.23 (A)
	%	30	41	16	9	4	
Others	f	11	44	14	7	3	29.43 (A)
	%	14	55	18	9	4	

*The response indicated is based on the score in relation to scaled values. For this item the highest scores would indicate the most intense attitudes of agreement towards the statement.

TABLE XXXVI

FOR ITEM #21, SUB-GROUP RESPONSE FREQUENCIES AND PERCENTAGES WITH ATTITUDE SCORES BASED ON SCALED VALUES

Item #21 -		The high school shop program should be sufficiently extensive and definite to lead to a high school technical diploma recognized by a technical school.					
		SA	A	U	D	SD	
Scaled Values		19	32	42	49	57	
Boys:							Score
Shop Boys	f	175	226	33	11	6	28.43 (A)*
	%	39	50	8	2	1	
Non-shop Boys	f	29	63	19	2	0	30.65 (A)
	%	25	56	17	2	0	
Staff:							
Counsel. - Admin.	f	3	9	3	4	0	35.21 (A)
	%	16	47	16	21	0	
Academic	f	10	42	11	7	3	33.42 (A)
	%	14	57	15	10	4	
Business Educ.	f	1	8	2	2	0	35.15 (A)
	%	8	62	15	15	0	
Shop & Home Ec.	f	8	8	2	2	0	29.50 (A)
	%	40	40	10	10	0	
Fathers:							
Professional	f	3	14	1	3	0	33.05 (A)
	%	14	67	5	14	0	
Managerial	f	12	24	2	6	0	31.18 (A)
	%	27	54	5	14	0	
Indus. - Technical	f	25	21	6	3	1	28.63 (A)
	%	44	38	11	5	2	
Others	f	27	40	8	3	1	29.53 (A)
	%	34	50	10	4	2	

*The response indicated is based on the score in relation to scaled values. For this item the lowest scores would indicate the most intense attitudes of agreement towards the statement.

Summary of Findings

Table XXXIII summarizes the attitudes of sub-groups towards the suggested policy of "streaming" high school students on the basis of ability. Fathers apparently agree that such a policy should be adopted. Staff sub-groups, too, except for the counsellor-administrator staff members appear to support the suggestion. The shop and home economics teachers appeared most favourable of all sub-groups towards the suggestion to classify and direct students. Boys, as well as counsellor-administrator staff members, had scores in the "undecided" category.

Item 19 of the opinionnaire states that "Departmental" examinations should cover other subjects besides the academic. Table XXXIV, a summary of the data for the responses to Item 19, shows that the shop boys and the counsellor-administrator staff members were the only sub-groups disagreeing with the statement, while the shop and home economics teachers were the only sub-group agreeing with the statement. All other sub-groups, including all the parents, the "non-shop" boys, and the academic and business education teachers, were undecided on the issue of extending the "Departmental" examinations to include other than academic subjects.

Table XXXV presents the data for Item 20, that suggests that a Grade XII student should be allowed to choose a shop subject for matriculation in such faculties as Engineering and Education instead of one of the traditional academic subjects. For this item, low scores are indicative of disagreement with the suggestion. Academic teachers have the

lowest score, and they are followed by the counsellor-administrator sub-group. These are the only two sub-groups with scores suggesting indecision. The boys, the fathers, and business education appear to agree, while the shop and home economics teachers "strongly agree."

In Table XXXVI all sub-groups appear to agree that the high school technical program should be sufficiently substantial to lead to technical diploma recognized by a technical school.

CHAPTER VII

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This, the final chapter, contains a summary of the complete study with conclusions and recommendations based not only on the results of the opinionnaire investigation but also on the survey of literature.

I. SUMMARY

It has been shown that the technical electives program of the three composite high schools in the Edmonton Public School system suffer from very low enrolment in the second and third year courses; that the three large senior high schools most recently built in Edmonton do not offer the technical electives; and that these courses are not recognized as credits or entrance requirements in technical programs in higher learning institutions. The literature reveals that prestige associated with the technical courses is comparatively low, and that the technical program is regarded as a "dumping ground" in the educational community, and a source of "fill-ins" and minor supplements for high school students. It has been indicated that although the enrolment in Canadian technical programs in general is low, the employment demands for technicians and skilled workers is high. Also from the survey of literature appears the suggestion that the success of the high school shop subjects in pre-vocational or vocational preparation is uncertain. And there appears, too, the problem of deciding whether the approach to high school technical learning should be

chiefly through trade skill practice or through technical theory and principles.

The purpose of this study was to consider the attitudes of students, teachers and parents towards the senior high school shop subjects to assess social acceptance and prestige, to determine possible effects of these attitudes upon enrolment in technical electives, and to assess attitudes towards certain suggested changes in high school technical education.

The study was limited to the three composite high schools, Victoria, Strathcona, and Eastglen, of the Edmonton Public School system. The respondent groups consisted of all of the Grade XI boys attending the three composite schools in April, 1960, the total teaching and administrative staffs at these schools, and the fathers of all of the Grade XII boys.

Data were obtained in the form of responses to twenty-one items on an opinionnaire. A total of 959 completed opinionnaires were returned, the total consisting of 564 from Grade XI boys, 125 from school staffs, and 270 from fathers.

Responses to items or statements on the opinionnaire took the form of circling letter codes SA, A, U, D, SD, meaning Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree. Each type of response for each item received a quantitative value computed on the basis of an assumption that responses were normally distributed and presented a "typical" aggregate answer. Favourability, then, towards an item, or a series of items, was determined through the product of frequencies and response values and expressed by a score.

Scores relating to general favourability or social acceptance indicated that, of the sub-groups, only the shop and home economics teachers, the boys with shop experience, and the counsellor-administrator sub-group, display a favourable attitude. The least degree of favourability is shown by professional fathers, the academic teachers, and boys with no shop experience.

Scores relating to prestige indicated that the Grade XI boys and the staff members accord the shop program favourable recognition or prestige, while the parents attach significantly less prestige to it. The only sub-groups indicating favourable prestige were, in order, the shop and home economics teachers, the administrators and/or guidance counsellors, and the shop boys. The least regard for the shop program was accorded by the boys with no high school shop experience. There appeared to be an indication, too, that higher prestige was shown towards the shop program for its suitability as a high school program than for the difficulty or challenge involved, that is, the challenge to students seemed to be considered inadequate in view of the nature and extent of the subject matter.

Results of the opinionnaire survey pointed to certain factors that should have a favourable influence upon shop enrolment. Boys in senior high school, according to the responses of the Grade XI boys, find the shop subjects more interesting than academic subjects. Students regard the technical subjects as sufficiently challenging to maintain interest but not so difficult as to cause undue dropout. Other results, however, pointed to certain factors that would adversely influence enrolment in

technical electives. Parents do urge their sons to follow a matriculation pattern regardless of student interests or aptitudes. At least this appears to be the view of respondents generally. Although there was little definite support and some opposition among the sub-groups regarding a policy of guiding able students towards academic subjects even if the students showed interest in technical study, the comparatively low scores of the academic teachers and the administrators and/or guidance counsellors, indicated that they would tend to support such guidance. There is likely a school influence, then, as well as a home influence, towards diverting able students from the shop program. Responses to the statement that there would be a substantial increase in enrolment of "A" students in the shop program if the program had a closer connection with further technical training, indicated general agreement for all sub-groups, except for the counsellor-administrator sub-group. There was general agreement, also, among sub-groups that if a shop subject were on the matriculation list it would be as popular as the "average" matriculation subject.

Five of the opinionnaire items were used to determine attitudes towards the content of the shop courses, their vocational training value, their suitability as supplementary courses in the science and mathematics program, and their suitability as a high school offering. All sub-groups agreed that shop subjects are not "frills" that divert students from serious high school learning. The suggestion to increase the theoretical content and decrease the practical content of the shop courses, brought a divergence of opinions among sub-groups. Boys

with shop experience expressed firm opposition. The counsellor-administrator sub-group were also somewhat opposed, while shop and home economics teachers were undecided with an inclination to favour more theory. Sub-group views on the industrial vocational value of technical electives as compared with the academic subjects were inconclusive, but there was an inclination towards favouring the academic program as a means of providing a better opportunity for industrial employment. Little support was given to the suggestion that shop courses be designed to assist in the mathematics and science fields. The proposal to remove the shop program from the senior high school to other institutions received considerable opposition from the boys, and a lesser degree of opposition from the fathers. On this issue, staff sub-groups were undecided except for the counsellor-administrator staff members who opposed deleting them.

Four other items on the opinionnaire were used to examine attitudes towards certain suggested policies. The policies investigated included directing students, on the basis of tested ability, to academic, home economics, technical, or business education programs; expanding the "departmental" examination list to cover subjects other than academic; extending the matriculation list to include one or more shop subjects; and offering an expanded shop program sufficiently effective to be worthy of a technical diploma. Towards the suggestion to test and direct students to various programs, no sub-group expressed disagreement. Shop and home economics teachers showed most favour, while shop boys showed most opposition. Towards the policy of extending "departmentals"

to include other subjects such as technical electives, only one sub-group --the shop and home economics teachers--showed favour, the shop boys and the counsellor-administrator staff members showed disfavour, while all other sub-groups offered no definite support or opposition. However, general support was given the suggestion to give shop subjects matriculation status. Academic teachers and counsellors and administrators showed least favour. The idea of a high school shop program worthy of a technical diploma received the support of all sub-groups.

II. CONCLUSIONS

Some of the inferences and conclusions are as follows:

1. Since the opinionnaire study revealed attitudes more of indifference than of favourability towards the shop program, it appears that the school board would receive almost as much support as opposition to a proposal to remove the technical electives from the senior high school curriculum. Results of the study suggest that the group most opposed to discontinuing the shop program would be the boys in high school.
2. Groups showing least favour towards the technical electives were those having the least experience or contact with the program. These included fathers in professional occupations, teachers of academic subjects, and boys who do not elect shop subjects.
3. Although the literature showed that the shop program suffers from low prestige, the opinionnaire survey apparently did not uphold this finding. Technical electives appear to the respondents

to be better than "frills," and suitable in subject matter for high school study, but, according to fathers and academic teachers, somewhat deficient in challenge to students.

4. It would appear that, according to the opinionnaire study, the high interest shown by the Grade XI boys should maintain high enrolment in technical subjects. But enrolment statistics prove that enrolment is relatively low in second and third year units. The causes of this drop in enrolment include
   (a) the tendency for parents to urge their sons to follow a matriculation pattern, and perhaps to a lesser extent, the tendency for academic teachers, counsellors and administrators to direct able students towards an academic program,
   (b) the terminal nature of the high school shop program, in that the courses are not recognized as credits towards further technical study beyond the high school, and
   (c) the fact that technical electives are not accepted as matriculation subjects.
5. As indicated by a survey of the literature, the success of the technical program in vocational training or in providing pre-vocational skills appears doubtful. The attitude study, too, points to somewhat minor recognition of the industrial vocational or pre-vocational value of technical electives. The respondent sub-groups considered most competent to evaluate this aspect, the counsellor-administrator staff members, and fathers in managerial and in

industrial-technical occupations, appear to believe that the shop courses are of lesser value than academic courses as preparation for industrial employment. However, the opinions may be based, not only on the comparative vocational value of these programs, but also on the fact that the more able students follow the academic route.

6. A generally favourable attitude exists towards the idea of testing and classifying students for the purpose of placing them in the various programs--academic, home economics, technical, and business education. Grade XI boys and administrators and counsellors, however, did not support such a streaming policy.
7. The inclusion of a five-credit shop course on the list of matriculation subjects would receive general approval, with probably as much opposition as support from the teachers of academic subjects and from the administrators and counsellors.
8. A change in the presentation of technical electives to place greater emphasis on the theoretical approach and less on the practical or project approach, would be approved by the teachers of these subjects but would be opposed by the students.

III. RECOMMENDATIONS

The findings and conclusions of this study give rise to the following recommendations:

1. An analysis should be made of the content of various shop courses and the methods and administrative peculiarities connected with

the shop program in order to determine the feasibility of recognizing these courses through the Grade XII external examinations and their acceptance for matriculation. Such recognition would likely enhance their popularity with able students, increase the value of these subjects to the students, add to their prestige and social acceptance, and assist in upgrading the technical program.

In connection with the foregoing recommendation, the following suggestions may be applied:

(a) Consider reducing the number of credits, the time allotted for subjects, from eight or ten credits to five credits as for academic courses. This would likely provide more flexibility in timetabling, extend or improve opportunities for subject choice, and accomplish an alignment with other programs of the composite school.

(b) Consider reducing the practical or project aspect so that the technical courses, especially those of the second and third year units, would be concerned largely with theory, principles, problem solving, and demonstrations. The technical courses would thus be made more specific and likely more demanding and in a better position to be included in an external examination system and in a matriculation program. However, it would be reasonable to retain sufficient practical work to enable students to develop elementary or basic skills.

(c) Investigate the possibility of placing the third year units of the technical electives on the list of "departmentals" if such external

examination policy is maintained. Successful achievement in these courses could be considered prerequisite to enrolment in the technical schools of Alberta or as preferred admission qualifications. These courses, perhaps, should also be recognized as university entrance courses in such faculties as Education, Engineering, and Agriculture. It is conceivable that such matriculation subjects could, for example, be "Technology 30," a composite type technical course, or "Mechanical Technology 30," or Electrical Technology 30."

The foregoing suggestions for a more theoretical approach relating chiefly to the second and third year units of senior high school technical electives, could apply also to the first year units. Or, in high schools where the physical set-up is adequate, a more practical or project type approach may be applied to first year units. The performance in the first year courses with a testing program to determine interests and aptitudes could well be a basis for counselling and the selecting of appropriate courses for individual programs in subsequent years.

2. A study should be made of the effects of a change to a more theoretical presentation of technical courses. Would such approach to the study of technical courses discourage enrolment of students who show great interest in the activity or project phase of technical subjects but who find it difficult to cope with technical theory and its application? A number of features for consideration arise. Would the first year units in the various technical courses be adequate for the students interested chiefly

in projects or hand work? Students who cannot benefit from theoretical knowledge, or students whose interests are confined to one type of study, automotives for example, would perhaps find specific and specialized job training more to their benefit. Could this be obtained more effectively through Canadian Vocational Training and apprenticeship plans? If the more demanding theoretical study leads to improved status for the technical subjects and promotes social acceptance and prestige, would it not encourage participation by able students interested in this field of learning and serve more effectively in composite high school education?

3. Before program revision is undertaken, the purpose of the technical program in the senior high school should be reviewed to determine to what extent it should involve vocational training. Should the major purpose of the senior high school technical program be vocational, that is, should the aim be the development of skills acceptable to the trades? Or should the major purpose be to teach technical electives as a part of general education, as another field of study for development of skills, knowledges, and values, and for the avocational, pre-vocational, or practical competence of the ordinary citizen?

A number of issues are involved in a decision to offer vocational technical courses in high school. Would the vocational objective agree with an apparent major purpose of the high school to provide a fundamental education leading towards further study? Could such training

program keep aligned with constant changes in technology? Would the vocational aim in the technical program maintain or accent the present division between the academic and shop programs, thus preserving the "dumping ground" conditions referred to in the survey of literature? In order to establish and support classes in specific trades, would sufficient numbers of students in high school be prepared to decide on a definite vocation?

The general education function of the technical subjects may be somewhat difficult to assess. But, at least in theory, this aim or approach would lead to a closer connection with other types of courses, greater flexibility in timetabling, more substance and meaning for individualized programming, and increased participation by students with non-vocational intentions. It seems that the technical subjects as a recognized part of a general and broad senior high school curriculum, rather than as definite vocational training would be of greater benefit to more students, and would better serve the function and philosophy of the composite high school.

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APPENDIX A

OPINIONNAIRE AND COVERING LETTERS

OPINIONNAIRE

ON THE COMPOSITE HIGH SCHOOL PROGRAM

To boys in Grade XI:

By completing this opinionnaire, you will be assisting in a study or review of the high school program, chiefly the shop program. You are asked to complete the opinionnaire whether you are acquainted with the shop program or not. We want your feelings towards what is contained in the statements of the opinionnaire.

This is not a test and will not affect your standing in any way.

It will take only a few minutes of your time, perhaps about 10 minutes.

Are you now enrolled in one or more shop subjects? .... Yes____ No____

Did you take a shop course last year? ..... Yes____ No____

OPINIONNAIRE

ON THE COMPOSITE HIGH SCHOOL PROGRAM

To the administrative and teaching staffs of the composite high schools:

The purpose of this opinionnaire is to obtain views and feelings that would assist in studying the technical electives (the shop program). Even if you are not directly involved in this program, you will have feelings towards the statements given. And there is a "U" for those who are undecided or neutral.

It is hoped that every teacher and administrator will complete the form.

It will take 5 to 10 minutes.

Do you put your name on the opinionnaire, but please check (✓) your position (what you do chiefly) on the high school staff.
(Note: if you are a school counsellor, check category 1 only.)

		Check one
1.	Administration and/or guidance counsellor.....	_____
2.	Teacher of academic subjects (include fine arts & phys. ed.).....	_____
3.	Teacher of business education.....	_____
4.	Teacher of shop or home economics.....	_____

Please return the completed forms to your school office.

OPINIONNAIRE

ON THE COMPOSITE HIGH SCHOOL PROGRAM

To fathers of boys in Grade XII (or mother, if father not available):

This questionnaire or opinionnaire is a part of a study being made to determine what students, parents and teachers think about shop courses in the composite high schools.

"Shop subjects" is the common name for the high school technical electives (Woodwork, Metals, Automotives, Electricity, Drafting). The academic electives are Chemistry, French, Latin, Physics, Mathematics, Biology.

Your feelings or views (whether or not your boy has taken shop) are necessary for the success of this research project and what it might contribute to education.

It will take about 10 minutes of your time.

The Grade XII boys have been asked to bring the opinionnaire back to their register rooms.

Please check (✓) the occupational group to which you belong. (The occupation of the head of the household.)

1. Professional - doctors, lawyers, ministers, architects, etc..... _____

2. Managerial - managers, proprietors, personnel and executive officials..... _____

3. Industrial-technical - technicians and tradesmen -- skilled and unskilled..... _____

4. All others..... _____

If completed by mother, check here - _____

OPINIONNAIRE

To complete this opinionnaire, put a circle around one of these letter codes -- SA A U D SD -- that follow each statement.

The letters give a choice from strong agreement to strong disagreement. For those statements upon which you have no views or feelings, circle "U" for Undecided.

Sample:

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
High schools should serve only the "A" and "H" students	SA	A	U	D	SD

If you mildly disagree with the statement, you would circle D , but if you strongly disagree with the statement, you would circle SD .

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1.	Most boys in high school find the shop subjects more interesting than academic subjects	SA	A	U	D	SD
2.	Many students discontinue shop after Grade X because they find the shop program too easy and unchallenging	SA	A	U	D	SD
3.	Many students of average ability do not enrol in the second or third year of a shop subject because they found the course too difficult	SA	A	U	D	SD
4.	Parents, in general, urge their sons to follow the matriculation pattern, even if it does not suit the student's interests and abilities	SA	A	U	D	SD
5.	Able students, even if they show interest and aptitude in the shop program, should be urged by the teacher or counsellor to stay with an academic program	SA	A	U	D	SD
6.	The enrolment of "A" students in second and third year shop would be greatly increased if the program had a closer connection with apprenticeship schemes and technical schools	SA	A	U	D	SD

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
7.	If a shop subject, such as Electricity 30, or "Applied Mechanics" 30, were on the matriculation list, it would be as popular (for boys) as the "average" matriculation subject----------	SA	A	U	D	SD
8.	Students should be tested and classified and then directed to various programs - academic, home economics, technical, business education----	SA	A	U	D	SD
9.	Low prestige or regard for the shop program discourages many students from enrolling in shop subjects----------	SA	A	U	D	SD
10.	An average of 60% in the academic program indicates better achievement than an average of 60% in the shop program----------	SA	A	U	D	SD
11.	The shop program should be "tougher"----------	SA	A	U	D	SD
12.	The shop courses, in general, have subject matter sufficient to challenge above-average students----------	SA	A	U	D	SD
13.	The shop subjects with hand work and theory are well suited to the senior high school----------	SA	A	U	D	SD
14.	Shop subjects are "frills" that tend to lead a student away from the real purpose of high school--	SA	A	U	D	SD
15.	The shop program should teach more principles, problems and theory and less hand skill work------	SA	A	U	D	SD
16.	Students who have the three-year shop course have a better chance to find a job in industry than have students with a three-year academic program----------	SA	A	U	D	SD
17.	Shop study should be given as laboratory courses to supplement or aid science and mathematics rather than as courses to train for technical skills and knowledge----------	SA	A	U	D	SD
18.	The shop program should be removed from the high school and offered through technical schools and community colleges----------	SA	A	U	D	SD
19.	"Departmental" examinations should cover other subjects besides the academic----------	SA	A	U	D	SD

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
20.	A Grade XII student should be allowed to choose a five credit shop subject for matriculation (in Engineering or Education) instead of one of the traditional academic subjects----------	SA	A	U	D	SD
21.	The high school shop program should be sufficiently extensive and definite to lead to a high school technical diploma recognized by a technical school----------	SA	A	U	D	SD

Thank you.

APPENDIX B

INSTRUCTION SHEETS

INSTRUCTIONS

To Grade XII register room teachers:

Read this to the boys in your class, if you will, please, as an explanation:

Each boy in Grade XII is asked to take a questionnaire home for his father to complete, and to return it to this envelope in the register room.

This questionnaire to fathers (or to mothers, in some instances) is part of a study of the high school program -- particularly the shop program. It is important that the forms be completed by every available father whether or not you, yourself, have taken shop, or whether or not your father seems interested in the shop program. We want the true picture of public interest and views.

It is expected that better returns can be obtained through your help in this way than by sending the forms through the mail.

Thank you.

Number distributed: _____

When it appears that all likely returns have been made, please return the envelope and forms to the school office.

Thank you for your assistance.

INSTRUCTIONS

To teachers of boys in Grade XI:

When it is least disturbing to you and your class program, will you please have one of your students distribute these forms to the boys in your Grade XI class and ask the boys to complete them "on their own" and return them to this envelope.

It will likely require about 10 minutes.

This matter is not urgent. Choose your time.

Your help in this way will be greatly appreciated.

Please return the envelope and forms to the school office.

Number distributed: _____

Thank you.

APPENDIX C

QUESTIONS SUBMITTED TO THE PANEL OF JUDGES

Various aspects of the shop program were studied through the responses of adults and students to certain items of the opinionnaire. It is desirable to obtain some assurance that the items do actually measure what they are supposed to measure. Opinions from a panel of judges would help to establish the validity of the items.

1. Is it reasonable to use each of these 12 items to assess social acceptance of the shop program? That is, would the circling of SA, A, etc., provide a satisfactory basis for assessing attitudes, favourable or unfavourable, towards the shop program? (use "Yes", "No", or "?")

   # 5_____ # 7_____ #10_____ #11_____ #12_____ #13_____

   #14_____ #16_____ #17_____ #18_____ #19_____ #20_____

2. Of the items listed above to assess social acceptance, five of them (10 to 14 incl.) were considered to be most suitable for the assessment of prestige. Prestige is the regard or recognition associated with the shop program, and in these five items it has its basis in the challenge of the shop subjects and the content or subject matter.

   (a) Is there, in your opinion, a distinction between social acceptance and prestige?_____

   (b) Would these five items all measure the same feature -- prestige?

   #10_____ #11_____ #12_____ #13_____ #14_____

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